3174.

SUPREME COURT OF THE UNITED STATES.

No. 91.

WILLIAM H. SEYMOUR AND DAYTON S. MORGAN,
PLAINTIFFS IN ERROR,

vs.

CYRUS H. McCORMICK.

IN ERROR TO THE CIRCUIT COURT UNITED STATES FOR THE NORTHERN DISTRICT OF NEW YORK.

INDEX.

	Original.	Print.
Writ of error	1	1
Citation and service	4	1
Clerk's certificate	6	2
Declaration	8	3
Plea of defendant	17	18
Judgment	17	19
Bill of exceptions	19	19
Charge of the court	49	30
Exceptions to charge	73	40
Testimony and exhibits referred to in bill of exceptions and depositions	80	42

GIDEON, print.

UNITED STATES OF AMERICA, ss.

The President of the United States of America, to the judges of the circuit court of the United States of the second circuit and the northern district of New York, greeting:

Because in the record and proceedings, and also in the rendition of a judgment in a plea, which is in the said circuit court for the northern district of New York, before you, between Cyrus H. McCormick, plaintiff, and William H. Seymour and Dayton S. Morgan, defendants, manifest error hath happened to the great damage of the said William H. Seymour and Dayton S. Morgan, as by their complaint appears; and it being fit that the error, if any there hath been, should be duly corrected, and full and speedy justice done to the parties aforesaid in this behalf, you are hereby commanded, if judgment be therein given, that then, under your seal, distinctly and openly, you send the record and proceedings aforesaid, with all things concerning the same, to the Supreme Court of the United States, together with this writ, so that you have the same at Washington on the first Monday of March next, in the said Supreme Court to be then and there held, that the record and proceedings aforesaid being inspected, the said Supreme Court may cause further to be done therein to correct that error, what of right and according to the law and custom of the United States should be done.

Witness, the honorable Roger B. Taney, chief justice of the said Supreme Court of the United States, this third Monday of December, in the year of our Lord one thousand eight hundred and fifty-two, and of the independence of the United States the seventy-seventh.

AUG'S A. BOYCE,
Clerk.

H. R. SELDEN,
Attorney.

The answer to the within writ appears in the schedules hereto annexed, dated February 1st, 1853.

A. A. BOYCE,
Clerk.

I allow the within writ this 21st day of December, 1852.

N. K. HALL,
Judge district court U. S. northern district New York.

Citation on writ of error.

UNITED STATES OF AMERICA, *ss.*

To Cyrus H. McCormick, greeting:

You are hereby cited and admonished to be and appear at a Supreme Court of the United States, to be holden at Washington on the

first Monday of March next, pursuant to a writ of error, filed in the clerk's office of the circuit court of the United States, for the second circuit and northern district of New York, wherein William H. Seymour and Dayton S. Morgan are plaintiffs, and you are defendant in error, to shew cause, if any there be, why the judgment in the said writ of error mentioned should not be corrected, and speedy justice should not be done to the parties in that behalf.

Witness the honorable Roger B. Taney, chief justice of the said Supreme Court of the United States, this third Monday of December, in the year of our Lord 1852.

N. K. HALL,
Dist. judge U. S., northern dist. N. Y.

I admit due personal service, this 21st day of January, 1853, of the within citation.

C. H. McCORMICK.

Circuit court of the United States, in and for the northern district of New York.

CYRUS H. McCORMICK
vs.
WILLIAM H. SEYMOUR & DAYTON S. MORGAN.

I, Augustus A. Boyce, clerk of the circuit court of the United States of America, for the northern district of New York, in the second circuit, do hereby certify, to the Supreme Court of the United States, that the judgment, record, and bill of exceptions, with schedules, as hereto annexed, are true transcripts of their respective originals remaining on the files of my office in the above entitled cause.

In testimony whereof I have hereunto subscribed my name, and affixed the seal of the said circuit court, this first day of February, in the year of our Lord one thousand eight hundred and fifty-three, and of the independence of the United States the seventy-seventh.

[SEAL.]

AUGUSTUS A. BOYCE, *Clerk.*

In the circuit court of the United States, for the northern district of New York.

Pleas before the judges of the circuit court of the United States, for the northern district of New York, at the court house in the village of Canandaigua, of the Tuesday next after the third Monday in June, in the year of our Lord one thousand eight hundred and fifty. Witness the honorable Samuel Nelson and the honorable Alfred Conkling, of said court.

AUGUSTUS A. BOYCE, *Clerk.*

NORTHERN DISTRICT OF NEW YORK, *ss.*

Be it remembered, that heretofore, to wit, on the 23d day of August, in the year of our Lord one thousand eight hundred and fifty, as yet of the said term of June, in the year of our Lord 1850, before the judges of the said court, at the court house aforesaid, come Cyrus H. McCormick, of Steele's Tavern (P. O.), in the county of Rockbridge, and State of Virginia, and a citizen of the said State of Virginia, by Samuel Blatchford, his attorney, and brings into the said court, before the said judges, then and there according to the rules of said court, his certain declaration against William H. Seymour and Dayton S. Morgan, of Brockport, in the county of Monroe, in said northern district, and citizens of the State of New York, of a plea of trespass on the case; which said declaration follows in these words, that is to say:

NORTHERN DISTRICT OF NEW YORK, *ss.*

Cyrus H. McCormick, of Steele's Tavern (P. O.), in the county of Rockbridge, and State of Virginia, and a citizen of the said State of Virginia, plaintiff in this suit, by Samuel Blatchford, his attorney, comes into this court, by filing his declaration, pursuant to the statute in such case made and provided, and complains of William H. Seymour and Dayton S. Morgan, of Brockport, in the county of Monroe, in said northern district, and citizens of the State of New York, defendants in this suit, as a plea of trespass on the case:

For that whereas heretofore, and before and at the time of the making of the letters patent first hereinafter mentioned, and before the committing of the several grievances hereinafter mentioned, to wit, on the twenty-first day of June, in the year of our Lord one thousand eight hundred and thirty-four, the said plaintiff was the true, original and first inventor of certain new and useful improvements in the machine for reaping all kinds of small grain, mentioned and fully described in the letters patent first hereinafter mentioned, which new and useful improvements were not known or used before his said invention or discovery, and were not, at the time of his application for a patent therefor, as hereinafter mentioned, in public use, or on sale with his consent or allowance; and the said plaintiff, being so as aforesaid the inventor of the said improvements, and being also a citizen of the United States, on the said twenty-first day of June, one thousand eight hundred and thirty-four, and before the committing of the several grievances hereinafter mentioned, upon due application, did obtain certain letters patent for said improvements, in due form of law, under the seal of the Patent Office of the United States, bearing date the twenty-first day of June, one thousand eight hundred and thirty-four, whereby there were granted to the said plaintiff, his heirs, administrators or assigns, for the term of fourteen years from the said twenty-first day of June, one thousand eight hundred and thirty-four, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said improvements, as by the said letters patent, which the

said plaintiff now here brings into court, the date whereof is the day and year last aforesaid, fully appears.

And the said plaintiff further says, that heretofore, and before and at the time of the making of the letters patent first hereinafter mentioned, and before the committing of the several grievances hereinafter mentioned, to wit, on the thirty-first day of January, in the year of our Lord one thousand eight hundred and forty-five, the said plaintiff was the true, original, and first inventor of certain other new and useful improvements in reaping machines, and upon his said patented reaping machine, mentioned and fully described in the letters patent first hereinafter mentioned, which last named new and useful improvements were not known or used before his said last named invention or discovery, and were not, at the time of his application for a patent therefor, as hereinafter mentioned, in public use or on sale with his consent or allowance, contrary to the acts of Congress in such case made and provided; and the said plaintiff, being so as aforesaid the inventor of the said last named improvements, and being also a citizen of the United States, on the said thirty-first day of January, one thousand eight hundred and forty-five, and before the committing of the several grievances hereinafter mentioned, upon due application did obtain certain letters patent for said last named improvements, in due form of law, under the seal of the Patent Office of the United States, bearing date the thirty-first day of January, one thousand eight hundred and forty-five, whereby there were granted to the said plaintiff, his heirs, administrators, or assigns, for the term of fourteen years from the said thirty-first day of January, one thousand eight hundred and forty-five, the full and exclusive right and liberty of making, constructing, using and vending to others to be used, the said last named improvements, as by the said last named letters patent, which the said plaintiff now here brings into court, the date whereof is the day and year last aforesaid, fully appears.

And the said plaintiff further says, that since the granting of said last named letters patent to him as aforesaid, he has, in exercise of the right and liberty granted by the said last mentioned letters patent, used, worked, exercised, and put in practice the said last named improvements, and made and manufactured reaping machines by means of and in pursuance of said last named improvements, and has vended and sold such articles and things as, by means of the said last named letters patent, he was so entitled to as aforesaid.

Yet the said defendants, well knowing the premises aforesaid, but contriving, and wrongfully and injuriously intending to injure the said plaintiff, and to deprive him of the profits, benefits and advantages which he might and otherwise would have derived and acquired from the using, exercising and putting in practice of the said last named improvements, and from the making and vending such reaping machines as aforesaid, after the granting of the said last named letters patent, and during the term of fourteen years therein mentioned, and before the commencement of this suit, to wit, on the first day of June,

one thousand eight hundred and forty-nine, and on divers days and times between that day and the commencement of this suit, and within the said northern district of New York, to wit, at Brockport aforesaid, wrongfully, unjustly, and without the leave or license and against the will of the said plaintiff, did make, manufacture and construct, and cause to be made, manufactured and constructed, and did vend to others to be used, and cause to be vended to others to be used, divers, to wit, three hundred reaping machines, and divers, to wit, ten thousand parts of reaping machines, made upon the plan of, and according to, and by means of, and having and embracing the principles of the inventions and improvements fourthly and fifthly claimed in the schedule or specification to the said last named letters patent annexed, and in breach of the said last named letters patent, and of the privilege, right, and liberty thereby granted, as aforesaid, and in violation of the statutes of the United States in such case made and provided.

And also, for that whereas, heretofore, and before and at the time of the making of the letters patent hereinafter mentioned, and before the committing of the several grievances hereinafter mentioned, to wit, on the twenty-third day of October, in the year of our Lord one thousand eight hundred and forty-seven, the said plaintiff was the true, original and first inventor of certain other new and useful improvements in reaping machines, and upon his said reaping machine, before patented as aforesaid, mentioned and fully described in the letters patent hereinafter mentioned, which last named new and useful improvements were not known or used before his said last named invention or discovery, and were not, at the time of his application for a patent therefor, as hereinafter mentioned, in public use or on sale with his consent or allowance, contrary to the provisions of the acts of Congress in such case made and provided; and the said plaintiff, being so as aforesaid the inventor of the said last named improvements, and being also a citizen of the United States, on the said twenty-third day of October, one thousand eight hundred and forty-seven, and before the committing of the several grievances hereinafter mentioned, upon due application, did obtain certain letters patent for said last named improvements, in due form of law, under the seal of the Patent Office of the United States, bearing date the twenty-third day of October, one thousand eight hundred and forty-seven, whereby there were granted to the said plaintiff, his heirs, administrators, or assigns, for the term of fourteen years from the said twenty-third day of October, one thousand eight hundred and forty-seven, the full and exclusive right and liberty of making, constructing, using and vending to others to be used, the said last named improvements, as by the said last named letters patent, which the said plaintiff now here brings into court, the date whereof is the day and year last aforesaid, fully appears.

And the said plaintiff further says, that since the granting of said last named letters patent to him, as aforesaid, he has, in exercise of the right and liberty granted by the said last mentioned letters patent, used, worked, exercised, and put in practice the said last named improve-

ments, and made and manufactured reaping machines by means of, and in pursuance of, said last named improvements, and has vended and sold such articles and things as, by means of the said last named letters patent, he was so entitled to as aforesaid.

Yet the said defendants, well knowing the premises aforesaid, but contriving, and wrongfully and injuriously intending to injure the said plaintiff, and to deprive him of the profits, benefits and advantages which he might and otherwise would have derived and acquired from the using, exercising and putting in practice of the said last named improvements, and from the making and vending such reaping machines as aforesaid, after the granting of the said last named letters patent, and during the term of fourteen years therein mentioned, and before the commencement of this suit, to wit, on the first day of June, one thousand eight hundred and forty-nine, and on divers days and times between that day and the commencement of this suit, and within the said northern district of New York, to wit, at Brockport aforesaid, wrongfully, unjustly and without the leave or license, and against the will of the said plaintiff, did make, manufacture and construct, and cause to be made, manufactured and constructed, and did vend to others to be used, and cause to be vended to others to be used, divers, to wit, three hundred reaping machines, and divers, to wit, ten thousand parts of reaping machines, made upon the plan of, and according to, and by means of, and having and embracing the principles of the said last named inventions and improvements, and in breach of the said last named letters patent, and of the privilege, right and liberty thereby granted as aforesaid, and in violation of the statutes of the United States in such case made and provided.

Whereby, and by means of which grievances, the said plaintiff has been greatly injured, and deprived of great profits, which he might and otherwise would have derived from said several inventions and improvements, to wit, at Brockport aforesaid, and has sustained actual damages to a large amount, to wit, the sum of thirty thousand dollars.

By means of which said several premises, and by force of the statutes aforesaid, an action has accrued to the said plaintiff, to recover of the said defendants the said actual damages, and such additional amount, not exceeding in the whole three times the amount of the said actual damages, as the court may see fit to order and adjudge.

Yet the said defendants, though often requested, have never paid the same, or any part thereof, to the said plaintiff, but have refused and still refuse so to do, to the damage of the said plaintiff of thirty thousand dollars, and therefore he brings suit, &c.

And it is suggested to the court now here, that the said plaintiff gave oyer in the words and figures following, to wit, of the letters patent of January 31st, 1845, and of the letters patent of October 23d, 1847, and of the specifications to said two letters patent severally annexed, and of the specification annexed to the letters patent of June 21st, 1834, in said declaration mentioned.

Oyer.

Letters patent of January 31st, 1845.—No. 3895.

The United States of America, to all to whom these letters patent shall come:

Whereas Cyrus H. McCormick, Rockbridge, Virginia, has alleged that he has invented a new and useful improvement in reaping machines, which he states has not been known or used before his application; has made oath that he is a citizen of the United States, that he does verily believe that he is the original and first inventor or discovery of the said improvement, and that the same hath not to the best of his knowledge and belief been previously known or used; has paid into the Treasury of the United States the sum of thirty dollars, and presented a petition to the Commissioner of Patents signifying a desire of obtaining an exclusive property in the said improvement, and praying that a patent may be granted for that purpose:

These are therefore to grant, according to law, to the said Cyrus H. McCormick, his heirs, administrators, or assigns, for the term of fourteen years from the 31st day of January, one thousand eight hundred and forty-five, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said improvement, a description whereof is given in the words of the said Cyrus H. McCormick in the schedule hereto annexed, and is made part of these presents.

In testimony whereof I have caused these letters to be made patent, and the seal of the Patent Office has been hereunto affixed.

Given under my hand at the city of Washington this 31st day of January, in the year of our Lord one thousand eight hun-
[L. S.] dred and forty-five, and of the independence of the United States of America the sixty-ninth.

J. C. CALHOUN, *Secretary of State.*

Countersigned and sealed with the seal of the Patent Office.

HENRY L. ELLSWORTH,
Commissioner of Patents.

Letters patent of October 23d, 1847.—No. 5335.

The United States of America, to all to whom these letters patent shall come:

Whereas Cyrus H. McCormick, Steele's Tavern, Virginia, has alleged that he has invented a new and useful improvement in reaping machines, which he states has not been known or used before his application; has made oath that he is a citizen of the United States, that he does verily believe that he is the original and first inventor or discoverer of the said improvement, and that the same hath not to the best of his knowledge and belief been previously known or used; has paid into the Treasury of the United States the sum of thirty dollars, and presented a petition to the Commissioner of Patents, signifying a

desire of obtaining an exclusive property in the said improvement, and praying that a patent may be granted for that purpose.

These are therefore to grant, according to law, to the said Cyrus H. McCormick, his heirs, administrators, or assigns, for the term of fourteen years from the 23d day of October, one thousand eight hundred and forty-seven, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said improvement, a description whereof is given in the words of the said Cyrus H. McCormick in the schedule hereunto annexed, and is made part of these presents.

In testimony whereof I have caused these letters to be made patent, and the seal of the Patent Office has been hereunto affixed.

Given under my hand at the city of Washington this 23d day of October, in the year of our Lord 1847, and of the independence of the United States of America the 72d.

[L S.]

JAMES BUCHANAN, *Secretary of State.*

Countersigned and sealed with the seal of the Patent Office.

EDMUND BURKE,
Commissioner of Patents.

Specification of Letters Patent of June 21st, 1834.

The schedule referred to in these letters patent, and making part of the same, containing a description, in the words of the said Cyrus H. McCormick himself, of his improvement in the machine for reaping all kinds of small grain.

To all to whom these presents shall come:

Be it known that I, Cyrus H. McCormick, of Rockbridge county, and State of Virginia, have invented a new and useful improvement in reaping all kinds of small grain, and that the following is a full and exact description of the construction and operation of the said machine, as invented or improved by me.

Upon a frame of wood is to be constructed a platform, of about six feet in width by about four or five in length. From the back of this platform projects a tongue of about ten or eleven feet, to the end of which is secured a cross-bar, to attach the swingle trees, by which the horses pull with their heads directed towards the platform; near which, at a proportionate distance from the cross-bar, are fastened to an upright rising from the tongue two hooks, by staples to said upright, one projecting towards each horse. These hooks fasten into the hame hooks of each horse, though the machine will be found to work better by using the hook to the left horse, the one ridden by the boy directing their movements. One horse may work the machine from this side, by substituting shafts for the tongue. On the right hand of the platform are to project in front two pieces of the frame, about one and a quarter foot, and about one foot apart. On each side of this projection is to be secured a broad piece of wood, by a screw bolt passing through

it and the projection of the frame. From the end of this broad piece, nearest the platform, rises a circular brace, projecting forwards, and secured to the reel post by a movable screw bolt, to allow of advancing or drawing back, as the adjustment of the cutting may require. About three-quarters of a foot on the other end is a movable screw bolt, passing through both pieces, also allowing for a rise or fall in adjusting the height of cutting, and at about the same distance further on is to play an axis of a wheel, to be hung between said pieces. At a short distance in front of this axis are to be screwed an arm on each side, projecting towards the middle, where they are united, and serve to throw the stalks of the grain towards the cutting apparatus. This triangle is to be movable on its screws also, and it may be removed altogether for the purpose of inserting shafts; so that the machine may be drawn by one horse in this manner: The two head pieces are to be lengthened, as also the curved brace projecting towards all of them, about three or four feet; the two broad pieces will be connected at their ends by a bar for the swingle-tree; and rising from the right hand one, near the end, an upright connects it with the curved brace; and by the side of this upright rises another, secured to its place, to a height sufficient to clear the reel; from this top a brace passes across the reel to the opposite post; below the inner shaft, from the swingle-tree end, is secured a long bow or brace, projecting out somewhat, and continuing along the direction of the shaft to the front of the horse, where it passes round and joins to the other shaft, which has been left purposely longer; the object of this bow is to throw the stalks inwards towards the cutting apparatus, instead of the triangle removed. Some other braces may be used to strengthen this part of the machine, similar to one which must pass from the junction of the curved brace with the reel post, obliquely towards that end of the opposite head-piece nearest the front of the cutter; from the top of the reel post a brace will also pass to the foot of the upright projection on the tongue. On the opposite side of the machine is another reel post, rising from a projection of the platform, and supported by a brace on each side, connected to the top by a movable screw bolt, and extending, one to the end of a piece attached to the projection; on the outside of which piece, and rising in the same direction, may be secured a bow, in order to more effectually divide the grain before it comes to the reel from the platform, by a movable screw, and extending forward about six feet, serving to regulate the width of the swath; the other brace, to the end of the platform next the horses, where, about half way up, it is joined by another brace, continuing it on to the cross-bar at the draught end of the tongue. This end of the platform is to be closed by a strip of cloth, stretched along it and as high as the stalks. The tongue is to be supported by the horses by means of a pole passing across their backs between them, and resting on pad saddles; from this pole a chain passes to the tongue below, and suspends it to the desired height. On the axis, hung between the head pieces, is a wheel of about two feet diameter, having the circumference armed with teeth to hold to the

ground by. On the right of this wheel is another of about thirteen inches diameter, or containing thirty teeth on the same axis, having a width on the circumference for the reception of a band; and on the right side are to be the teeth or cogs, working in a smaller cog-wheel of about three and a half inches in diameter, or nine cogs, secured to an angle sloping back towards the front of the platform, where is secured another cog-wheel of about eleven inches in diameter, or containing twenty-seven teeth, working into another of about three and a half inches in diameter, or nine cogs, attached to an upright double crank, passing from the curved brace down to the broad piece below. These cranks are in a right line, projecting on opposite sides of the axis, and in a line with the front edge of the platform. To the lower of these cranks is attached, by a joint near the crank, having a wooden pin, a long cutter of steel, grooved or notched on its lower edge like a reaping hook, with the grooves running in a line towards the right of the machine. This blade is attached to the frame piece, below the edge of the front of the platform, by movable tongues or slips of metal, the bolt securing it to said frame piece acting as a pivot, and that through the blade likewise, so that the motion is described in part of a circle. This motion, when the stalks are presented, cuts them through. Above this cutter slides another long plate, to the upper crank of the same length, and secured in the same manner, but, instead of the fine teeth used in the lower plate, these teeth are long, say about one and a half inch, and about the same distance apart. They are to project in a line sloped in an opposite direction to the grooves in the cutter below, and their motion, in sliding backwards and forwards, is also contrary, thereby collecting the stalks as they come in contact with these teeth, and force them across the teeth in the cutter below, thereby greatly assisting in the act of cutting them through. The crank working this blade may be dispensed with in some cases, and the teeth made fast above the cutter, and bent over its edge and under, some distance, so that the cutter will then work against them, and produce the same effect. On the upper end of each reel post is a groove or long mortice, having a number of holes through the sides, for the reception of an adjusting pin; on this pin, and through the groove, work the end of the axis of the reel, having, on the right end, a pulley of about twelve inches diameter, secured to the axis, and worked by means of a belt from the pulley wheel below on the axle of the wheel working in the ground. The reel is composed of two or more cross arms at each end of the axle, projecting about three feet, and connected at their ends by a thin board of about six inches in width, which, by the arrangement of the arms, runs in somewhat a spiral direction along the axis, though it might be parallel, the right end bearing up first upon the grain. This reel, by the motion given by the strap, as the horses advance, bears the stalks, as they are projected inward by each end of the termination of the platform, upon the cutter, and, when separated, hands them on the platform, which, advancing till sufficient quantity is collected, is discharged, as often as may

be required, by a hand with a rake at the right end of the platform. On the left end of the platform is a wheel of about fifteen inches diameter, set obliquely, bending under the platform, to avoid breaking down the stalks, on an axle, that may be raised or lowered by two movable bolts, as the cutting may require, corresponding with the opposite sides. The projection of the frame at this end is made sufficiently wide to bear off the grain from the wheel.

My claim is for the arrangement of the several parts, so as to constitute the above described machine, and I particularly claim the method of cutting by means of a vibrating blade, operated by a crank, having the edge either smooth or with teeth, either with stationary wires, or pieces above and below and projecting before it, for the purpose of staying or supporting the grain whilst cutting, or using a double crank, and another blade or vibrating bar, as above described, having projections before the blade or cutter on the upper side, both working in contrary directions, thereby lessening the friction and liability to wear, by dividing the motion necessary for one between the two, and improving the principle of cutting by gathering and holding the grain to the cutter, the projections standing at a proper angle to said cutter; also the method of securing them.

I also claim the method of gathering and bringing the grain back to the cutter, and delivering it on the apron or platform, by means of a reel, as described above, movable to any height required to suit the grain and the platform to hold the grain until a sufficient quantity shall have been collected for a sheaf, more or less; likewise the mode of changing the machine for cutting either high or low, as described above; also, the method of dividing and keeping separate the grain to be cut from that to be left standing, and the method of attaching the tongue when behind to the breast of the horse, to enable him to guide the machine with accuracy.

In testimony that the above is a true and correct description of the use and construction of my machine as invented by me, I have hereunto set my hand, this nineteenth day of June, 1834.

CYRUS H. McCORMICK.

Witnesses—HENRY STONE,
ROBERT CLARK.

Specification of Letters Patent of January 31st, 1845.

To all whom it may concern:

Be it known that I, Cyrus H. McCormick, of the county of Rockbridge, and State of Virginia, have invented certain new and useful improvements upon my patented reaping machine, and I do hereby declare that the following is a full and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification.

The first improvements which I would describe are in the cutting

apparatus as follows, viz: The blade case, A A A A A 2, in which the blade B B B B 2 plays, and is secured, is a straight plate of iron, the length of the blade, say 1¼ inch wide, ⅜ inch thick on the back, and less than ⅛ inch on the front edge, as at A, fig. 3; to the upper side of this plate is riveted a back, A 1, fig. 3 and 5, say $\frac{3}{16}$ inch thick, (thickness of the blade,) and ⅝ inch wide, leaving a width of ⅝ inch in front of the back, as at A 2, fig. 3, for the blade to act upon. The end of this plate next to the crank is widened, (towards the front,) as at A 2, figs. 5 and 9, and turned up so as to receive and fit the end of the blade, (giving it room to act,) which is also extended in width, as hereafter described. The other end of the blade is also widened in like manner.

At the ends, the width of the blade B is extended in front, as at 4 4, figs. 4, 5, say to 1¾ inch, being twice its width at the cutting part, so that the edge of the blade, though projecting over the case ¼ inch, (as at B 1, fig. 3,) is firmly and sufficiently supported by the ends, and prevented from a tendency to wear and turn down from the pressure of the cutting. The teeth of the blade are similar to those of a common sickle, except that their angle is alternately reversed in spaces of 1¼ inch, (more or less,) as at B 3, fig. 4, on an inverted section; the object of which is to equalize the cutting in both directions, as the blade vibrates, and more effectually to keep the blade free from choking, by cutting itself clear of blades of wheat, &c., in both directions.

The blade case is secured to the two projections of the frame of the platform C at 7, 7, 7, 7, figs. 1 and 5, say three or four inches forward of the front piece, C, of said platform, and it is supported between, at suitable distances apart, by two or three iron bearers, e, as shown in the cross section, fig. 3, screwed fast to the front piece of the platform, (C,) and so bent (downward) as to let straw or blades that may get in work out.

The fingers D D D, (27 in number, more or less,) are made of bars of wrought iron (but might be cast) about ⅝ inch square, one end of which is widened into a shape resembling a spear. These fingers are made fast in the frame of the platform, C, and extend forward above the blade, so that the hinder angle (d, fig. 5) of the spear is just behind the serrated edge, b, of the blade, B, thereby forming an acute angle between the edge (b) of the blade and the shoulder (d) of the spear by which the grain is prevented from yielding to the touch of the blade (B) as it vibrates, and is held fast, so that the cutting is insured; and that, too, dispensing with the under part of the finger (as with the double bearer or finger) on which blades, grass, &c., are liable to lodge and choke the machine. The fingers are intended to fit pretty close to the edge of the blade, and to be bent up a little from the back, to prevent choking, as at B 1, B 2, fig. 3. The blade may either act on a level with the upper surface of the platform, or below it, as at present constructed.

Next, the driver, F, (or connecting rod,) is made of two pieces, F 1, F 2, put together with screw bolts, and so hollowed out in the inside

(as at f, f, fig. 8) as to receive round (or cylindrical) followers, G G G, in which the wrist of the crank, (I I I,) revolves, to be kept tight on the crank by the key 10, fig. 6, instead of the flat ones; by which arrangement they are enabled to roll in the driver so as to accommodate themselves to any angle of the crank, varied by changing the height of cutting, thereby dispensing with extra followers, to suit different sets of the machine, and the trouble of changing them. The machine is at present constructed for two heights of cutting, 8 and 10 inches, (might have more variations,) which is effected, on the out or tongue side, by two joints in the frame work; one at the crank or connexion of the hounds (N N) and platform (C) Y V V, the other at the connexion of the hounds and tongue (P) O O Z; the two bolts Y and Z being pivots to the two joints, and the axle of the main ground wheel at A (in the two hounds) a pivot on which to turn the frame to effect the change required. When the bolts V and O are in the lower holes of the hounds and tongue, the height of the blade from the ground will be eight inches, (which is the lower set.) The point of the tongue being fixed and immovable by the breast piece Q made fast to the horses' hames, by removing the bolts V and O into the holes V and O of the hounds and tongue upon the pivot A, as before described, the hounds, together with the wheels, crank, and other frame work attached to them will turn, sinking the joint O O Z, and raising the joint Y V V, and consequently the blade, to 10 inches. By this operation the horizontal position of the platform, and of the blade and driver, they being attached by a pin at 11, 11, figs. 1, 5, 6, and 11, is preserved, whilst the turning of the hounds, crank, &c., as aforesaid, varies the angle of the crank to the blade and driver, and, but for the rolling of the followers in the driver, as before described, would twist the blade.

The application of the fly wheel H upon the axle of the crank I above the wrist, by which means the weight of the driver is counterbalanced, (one side of the wheel being heavier than the other,) the changes of action in the blade regulated and effected with more ease, less friction and strain upon the machinery, and consequent liability to wear and get out of order, and from which uniformity of action and resistance, the action of the blade and wheels is kept up in situations where otherwise it would fail, by reason of the wheels slipping and not revolving.

The manner of ungearing the machine by the lever, J, so that when it is moving and not cutting, the operation of the wheels and blade can be stopped conveniently. This is effected by securing the lever to the top of the out hound by a screw bolt, B, which serves as a fulcrum. One end of the lever extends say 4 or 5 inches back from the fulcrum to a suitable place, and is suitably shaped as a box, in which is placed and acts the lower end of the axle (g, at the pinion) of the wheel, L, that operates the crank; and on and near the lower end of which said axle is a pinion, M, (of 9 teeth) that gears into the master cog-wheel, P, of 30 teeth. At some 12 inches before the fulcrum is a

loose pin, J 2, put through the lever and into the hound, which holds it firmly to its place. To ungear the wheels, it is then only necessary to take out the pin, and move the end of the lever in towards the master cog-wheel, which moves the other end with the pinion out of gear, and the pin being put again into the lever, and a different hole in the hound, it is kept out of gear until changed as before. This is important in moving the machine from place to place, and also in cutting around a piece of grain; it sometimes does not suit so well to cut on one side as on others.

The divider, K, is an extension of the frame on the left side of the platform, say three feet, before the blade, for the purpose, and so constructed as to effect a separation of the wheat to be cut from that to be left standing, and that whether tangled or not. E is a piece of scantling, say three feet long and three inches square, made fast to a projection of the platform by two screw bolts. To the point of this piece, at K, is made fast by a screw or bolt, L, a bow of tough wood, the other end of which is made fast in the hinder part of the platform, at R, and it is so bent as to be about 2½ feet high at the (left) reel post, and about 9 inches out from it, with a regular curve. The dividing iron, M, is an iron rod of a peculiar shape, made fast to the point of the same piece, E, and by the same screw bolt that holds the bow K. From this bolt this iron rises towards the reel S, at an angle of say 30°, until it reaches it; then it is bent so as to pass under the reel, as far back as the blade, and to fit the curve of it, (the reel.) From the bolt, in the point aforesaid, the other end of this iron extends, say 9 inches, along the inside of the piece, E, where it is held by another screw bolt, M, and where it has a groove (or slot) in it, to admit the other ends being raised or lowered, (turning on the point screw K as a pivot,) to suit the height of the reel. By means of the bow to bear off the standing wheat, and the iron to throw the wheat to be cut within the powers of the reel, the required separation is made complete.

The manner of constructing the hounds, N, N, (or main wheel pieces,) and of connecting them with the tongue, (P,) and forming the movable joint, O O Z, as before described, corresponding with the joint Y V V, in changing the height of the cutting; by which construction, too, the frame is greatly simplified and strengthened, sufficiently so to control the action of the machine firmly and permanently (the inside hound operating as a direct and strong brace to it) by means of the tongue, P, which is extended, say 10 feet, forward, so as to balance the machine upon its two ground wheels T and U, and is attached to the breast piece Q, as before described.

The reel post, R, (on the left side of the machine,) instead of being placed before the blade, standing perpendicularly and braced as before, is set, say nine inches, behind the blade, as at U, and so leaned forward as to bring the middle of it, or point R, at which the end of the reel is supported, to its former perpendicular; thereby, too, so putting the top of the post V forward, as to admit of being braced directly to the tongue, P, (by means of the tongue post T, for the purpose of rais-

3/82.

ing the end of it a little,) by the brace, S, passing partly over and in front of the reel. By this arrangement, first, the bracing, as described, is effected with much more simplicity and strength; and secondly, the lower end of the post (at U) being behind the blade, and crooked out as at R 2, (the end of the dividing iron at M being bent inward,) all tendency of straws hanging upon it (the post) and interfering with the cutting is removed.

The top of this post, and front brace, (S,) might be dispensed with, by making the frame of the platform heavier and stronger, but it is believed not so well as at present constructed.

The manner of attaching the small ground wheel to the left side of the platform, as at U, fig. 2, by having different holes in the frame, as at U 1, for varying the height (by changing the axle of the wheel in them) of the cutting, and cutting away the under side of the frame at n, behind the axle, to prevent the collecting of earth and gravel by the upward motion of the wheel, so as to stop its revolution.

The manner of attaching the sand board, W w, to the frame, between the main ground wheel and the other wheels, driver, &c., by constructing it of two pieces at right angles to each other; the piece W being placed between the ground wheel and master cog wheel, and made fast by the bolt V; the other post, W, passing between the ground wheel and driver, and made fast to the brace q.

And, lastly, the straw board X, made fast to the wheel post r, (at r,) and to the brace, (at q,) for the purpose of keeping the grain from the wheels, driver, &c.

I claim, 1st, the curved (or angled downward, for the purpose described) bearer, for supporting the blade in the manner described.

2d. I claim the reversed angle of the teeth of the blade, in manner described.

3d. I claim the arrangement and construction of the fingers, (or teeth for supporting the grain,) so as to form the angular spaces in front of the blade, as and for the purpose described.

4th. I claim the combination of the bow, L, and dividing iron, M, for separating the wheat in the way described.

5th. I claim setting the lower end of the reel post, R, behind the blade, curving it at R 2, and leaning it forward at top, thereby favoring the cutting, and enabling me to brace it at top by the front brace, (S,) as described, which I claim in combination with the post.

CYRUS H. McCORMICK.

Witnesses: T. C. DONN,
R. J. A. CULVERWELL.

Specification of Letters Patent, of October 23d, 1847.

The schedule referred to in these letters patent, and making part of the same.

To all to whom these presents shall come:

Be it known that I, Cyrus H. McCormick, of Steele's Tavern, in

the county of Rockbridge, and State of Virginia, have invented new and useful improvements in the reaping machine formerly patented by me, and that the following is a full, and clear, and exact description of the principle or character which distinguishes them from all other things before known, and of the manner of making, constructing, and using the same; reference being had to the accompanying drawings, making part of this specification, in which figure 1 is a perspective view, figure 2 a plan, and figure 3 a side elevation. The same letters indicate like parts in all the figures.

The reaping machines heretofore made are defective in the following particulars: The driving wheel is placed forward of the mechanism that operates the vibrating sickle, and so far forward as to leave too much of the weight of the machine back of the driving wheel, and therefore tending to strain the horses as well as the frame of the machine. And the gearing, which communicates motion to the crank, is placed back of the driving wheel, which is, therefore, subject to be clogged by sand, dirt, straw, &c., and, in consequence of the relative position of the various parts, the attendant is obliged to walk on the ground by the side of the machine to rake the cut grain from the platform, as it is delivered and laid thereon by the reel. These defects, which have so much retarded the introduction into practical and general use of reaping machines, I have remedied by my improvements; the nature of which consists in placing the driving wheel further back than heretofore, and back of the gearing which communicates motion to the sickle, which is placed in a line back of the axis of the driving wheel, the connection being formed by means of a lever and connecting rod, thus placing the cog gearing which operates the crank, forward of the driving wheel, for the purposes described, and also bringing the driving wheel sufficiently far back to balance the frame of the machine with the raker on it, and making room for him to sit or stand on the frame, back of the driving wheel, and with his back to the horses, so that from this position, and the placing of the reel further forward than heretofore, and making it shorter, together with the employment of a wheel-board or guide, which prevents the grain from passing under the machine, or into the gearing, thereby avoiding the necessity of a long reel, he can rake off the grain with a sweep of his rake (having the free use of his body and arms) in a curve, of which his body is the centre, and thus lay the grain on the ground, with the heads outwards, at right angles to the swath, which cannot be done if the raker walks on the ground by the side of the machine as heretofore, for then the sweep which he makes with his rake, relatively to the motion of the machine, lays the grain on the ground with the heads oblique, instead of at right angles, with the swath, as with the improved mode.

In the accompanying drawings (M) represents a flat beam, (called the finger piece,) to a part of the forward edge of which are secured the fingers, (P,) such as are used in the machine heretofore patented by me, and under these fingers is arranged the vibrating sickle, which re-

ceives its vibrating motion in manner to be hereafter described. The finger piece is firmly attached at one end to the two oblique hounds, (C) and (D,) which run towards each other and are bolted to the tongue, (A,) the forward end of which passes through the breast piece, (B.) The team is harnessed to the tongue, hounds, and breast piece, in the usual or any desired manner. The axle of the driving wheel (L) has its bearings in the two hounds, so near the back end thereof as just to leave room for the wheel to run clear of the finger piece; and to the outer end of the axle of the driving wheel is attached a beveled master cog wheel, (l,) which communicates motion to a beveled pinion (l 1) on the lower end of an inclined arbor, to the upper end of which there is another beveled wheel, (F,) which communicates motion to the driver pinion (H) on a vertical crank arbor (G) that has a fly-wheel (g) on it, between the crank and pinion. The crank arbor has its bearings in the outside hound and the oblique brace, (h,) and the inclined arbor has its upper bearing in the oblique brace, and its lower end in a shifting lever, (m,) by means of which the pinion (l 1) can be thrown in and out of gear by the master bevel wheel, (l.) When it is desired to reap, or move the machine without reaping, a connecting rod (n) from the crank extends horizontally to the forward end of the lever, (o,) which turns on a fulcrum pin (p) attached to the inside hound, and thence runs back to form a connection with the end of the sickle, (q,) by means of a short connecting rod, (r.) By this arrangement of parts the gearing is placed forward of the driving wheel, and motion is communicated from thence to the sickle back of the axis of the driving wheel, by the vibrating lever, thus placing the driving and supporting wheel back of the gearing, and far enough to balance the weight of the frame; and the attendant or raker is placed on a seat (J) over one end of the finger piece. This seat is attached to a seat post (N) which rises from the outside hound, and to the oblique brace, (h,) and it is braced also by the diagonal wheel brace, (N 1,) which runs down from the post to the finger bar, (M,) near to its junction with the inside hound. From this position, as represented in figure 1 of the drawings, the raker can get at the grain back of the wheel, and, by a natural sweep of his arms, deliver it on the ground, at right angles to the swath, as shown in the figure. To give free scope to the arms of the raker, the reel (W) is made shorter than usual at that end, instead of overlapping or extending beyond the range of fingers; and to prevent the grain or straw from passing under the frame, or into the gearing which operates the sickle, there is what I denominate a wheel-board, (w,) that is, a curved board, the forward end of which is secured to the inside hound; the forward end is curved to force the grain inwards towards the reel, and then it runs back to the platform, (Q,) parallel with the plane of motion of the end of the reel. At the other end of the finger bar there is a separator, (T,) or long finger, which projects beyond the points of the fingers, (P,) to separate the grain that is to be cut; and to the point and top of this is attached a metal guide or support, (U,) which extends back to the sickle to support the grain while being cut. The outer

edge of the separator runs out in a curved line, to force out the grain that is not to be cut, and effect a perfect separation of it from the cut grain. At this end of the platform there is a board (s) to prevent the cut grain from dropping out on that side, and at the back there is a cloth screen to prevent its dropping out in the rear. The reel (W) has its bearings at the outer end, in the end of a horizontal beam, (V,) which is attached to the frame that supports the *the* back screen, and further supported by braces, so as to avoid the use of a standard at that end, as heretofore, against which the grain strikes before it is separated. And the inner end of the reel has its bearing in a sliding box, in a standard (I) attached to the outside hound and the diagonal brace, (h,) the sliding box having a tapped stem running up above the standard, with a screw nut, (X,) by means of which may with convenience be tightened the belt that runs from the driving pulley, (x1,) (on the axle of the driving wheel,) over the pulley (y) on the axle of the reel.

What I claim as my invention, and desire to secure by letters patent, as improvements on the reaping machine secured to me by letters patent, bearing date the 21st of June, 1834, and the 31st of January, 1845, is placing the gearing and crank forward of the driving wheel, for protection from dirt, &c., and thus carrying the driving wheel further back than heretofore, and sufficiently so to balance the rear part of the frame and the raker thereon, when this position of the parts is combined with the sickle back of the axis of motion of the driving wheel, by means of the vibrating lever, substantially as herein described. And I also claim, as my invention, the arrangement of the seat of the raker over the end of the finger piece, which projects beyond the range of fingers, and just back of the driving wheel, as described, in combination with and placed at the end of the reel, whereby the raker can sit with his back towards the team, and thus have free access to the cut grain laid on the platform and back of the reel, and rake it from thence on to the ground by a natural sweep of his body, and lay it in a range at right angles with the swath, as described, thereby avoiding unevenness and scattering in the discharge of the wheat, as well as accomplishing the same with a great saving of labor.

C. H. McCORMICK.

Witnesses—A. P. Brown,
J. M. Thayer.

Plea.

And the said William H. Seymour and Dayton S. Morgan, defendants in this suit, by Henry R. Selden their attorney, come and defend the wrong and injury, when, &c., and say that they are not guilty of the said supposed grievances above laid to their charge in manner and form as the said plaintiff hath above thereof complained against them, and of this they, the said defendants, put themselves upon the country, and the said plaintiff doth the like, &c.; and hereupon the process thereof is continued between the parties aforesaid of the plea aforesaid in this same court before the judges thereof; and the issue above joined is ordered

3184.

by the said court to be tried at the term of this court, appointed to be held at the city of Albany on the third Tuesday of October, in the year 1851, at which day and place last aforesaid come the parties aforesaid by their attorneys aforesaid, before the judges of the said court; and the jurors of the jury summoned to try the said issue being called also come, who to speak the truth of the matters aforesaid, being chosen, tried and sworn, say upon their oath that the said defendants are guilty of the premises above laid to their charge in manner and form as the said plaintiff hath above complained against them, and they assess the damages of the said plaintiff by reason of the premises, over and above his costs and charges by him about his suit in this behalf expended, to seventeen thousand three hundred and six dollars and sixty-six cents, and for those costs and charges to six cents.

Therefore it is considered that the said plaintiff do recover against the said defendants his said damages, costs and charges by the jurors aforesaid in form aforesaid assessed, and also two thousand six hundred and twenty-three dollars and forty-seven cents for his said costs and charges by the said court now here adjudged of increase to the said plaintiff and with his assent, which said damages, costs and charges in the whole amount to nineteen thousand nine hundred and thirty dollars and nineteen cents; and the said defendants in mercy, &c.

Judgment signed this 13th day of December, 1852.

A. A. BOYCE,
Clerk.

Judgment record for $19,930 19.
(Filed December 13th, 1852—5, 45, p. m.)

In the circuit court of the United States for the northern district of New York.

WILLIAM H. SEYMOUR and DAYTON S. MORGAN, ads.
CYRUS H. McCORMICK.

Be it remembered, that afterwards, to wit, on the twenty-fourth day of October, in the year one thousand eight hundred and fifty-one, at a term of the circuit court of the United States for the northern district of New York, then held at the city hall in the city of Albany, in said northern district, before the honorable Samuel Nelson, one of the justices of the Supreme Court of the United States, the issues joined in this cause came on to be tried before the said justice, and a jury then and there duly empanneled and sworn to try said issues; when the plaintiff's counsel moved the trial of the cause, the defendants' counsel moved the court to put off the trial of the cause until the next term of this court, upon the ground that they had been unable to procure the attendance or testimony of a witness material to their defence as to the alleged infringement by them of the patent issued to the plaintiff, 31st January, 1845, and read affidavits tending to verify such fact. The court intimated an opinion that the affidavit was sufficient to put off the

trial of the cause, whereupon the plaintiff's counsel stated to the court that rather than have the trial put off, they would not on said trial seek to recover against the defendant, on account of any alleged infringement or violation by the defendants of the plaintiff's rights under his letters patent bearing date January 31st, 1845, set forth in his declaration, but would proceed solely for a violation of the rights secured to him by his letters patent bearing date October 23d, 1847, set forth in his declaration, under the last claim specified in that patent relating to the seat for the raker.

And the said counsel, to maintain and prove the issues on the part of the plaintiff, produced and read in evidence a certified copy of the petition of the said plaintiff in pursuance of which the said letters patent of October 23d, 1847, were issued, which petition purported to have been sworn to by the plaintiff at Washington, on the 31st day of March, 1847, and to have been filed in the Patent Office at Washington, on the third day of April, 1847, a copy of which petition is hereto annexed, marked A.

Also letters patent issued to the said plaintiff, bearing date October 23d, 1847, a copy of which is hereto annexed, marked B.

Also an account of the manufacture and sale of 300 reaping machines by the defendants, made and sworn to by them, dated August 20, 1850, a copy of which is hereto annexed, marked C.

It was then stated on the part of the plaintiff, and admitted on the part of the defendants, that this suit was commenced August 24, 1850.

Harvey Waters was then sworn as a witness on the part of the plaintiff, and testified that he was a machinist, and had been engaged in the construction and management of machinery since he was 17 years old, and for the last 6 or 7 years had given particular attention as to what constituted an invention, as distinguished from mechanical skill; that he had examined the letters patent of the plaintiff, of October 23d, 1847, introduced in evidence, as above mentioned, and had seen reaping machines constructed according to that patent, and had seen one or more of the machines manufactured by the defendants, as stated in their account of sales before mentioned. That a model shown him by plaintiff's counsel, and marked No. 1, was in substance a *a* correct model of the plaintiff's machine, as described in his letters patent of October 23d, 1847; and that another model shown him by plaintiff's counsel, and marked No. 2, was in substance a correct model of the machines manufactured by the defendants; and that another model, also shown him by plaintiff's counsel, and marked No. 3, was in substance a correct model of the plaintiff's machine, as described in his letters patent of January 31st, 1845, except that the bow attached to the divider was not as much elevated as it is described in the patent.

That the machines constructed by the defendants contain in substance the same improvements described and lastly claimed in the plaintiff's patent of October 23d, 1847, though the form was somewhat different; that the devising or ascertaining the proper place for the seat or position

of the raker to ride on the machine, so as to give him freedom of action, and also a firm position, so located as to enable him to rake the cut grain from the platform of the machine and deposit it in gavels on the ground, would necessarily require invention; it could not be accomplished by mere mechanical skill. It required much study, thought, and experiment; a re-adjustment of the whole machine was necessary to give it the proper balance, with the raker riding upon it. And Mr. Waters, and all the other above named witnesses, testified that there was no use in the sharp iron on the end of the seat of the defendants' machines, next to the raker, unless it was to prevent him sitting down on the seat. Any competent mechanic could construct the plaintiff's reaper, with the improvement patented in 1847, from the description contained in the specification to that patent.

Martenu C. Bryant, James J. Mapes, John F. Winslow, and Ira Jagger, machinists, were called and sworn on the part of the plaintiff, and concurred substantially with the witness Waters.

Aaron Miller was then called and sworn on the part of the plaintiff: testified that he worked for defendants three seasons when they were making reapers for plaintiff—1846, 1848, and until September, 1849; defendants were then making machines for plaintiff. After that, and in the fall of 1849, I prepared patterns for the machines they intended to build on their own account for the harvest of 1850. The end of the box or seat next to the position of the raker was rounded off, so that the raker could sit down on it if he desired. After that I went to Illinois, and did not return until April, 1850. I was then directed by defendant Seymour to make a pattern for the sharp iron on the end of the box or seat next to the raker's position. I asked him the object of it; he said it was to make it appear that it was not designed for a seat, as McCormick would claim it was an infringement if the raker could sit down on it. The wood work of the 300 machines made by defendants was then completed, and the pattern I made for those irons was so fashioned as to be put on to the end of the seat, and cover up the rounded edge next to and in the rear of the raker as he stood upon the reaper. I made the pattern for those irons between the 20th and 30th of April, 1850. If defendants had intended in the first instance to put these irons on the end of the seat, there could have been no reason for rounding off the edge of the seat where they were put on. This sharp iron had a flange, cut so as to come down and cover up the round end of the seat.

On cross examination, witness testified that he had used Seymour and Morgan's reaping machines, and that the raker could not sit on the box, and do the raking, when machine was in operation, if the grain was heavy.

Benjamin P. Johnson was then called and sworn on the part of the plaintiff, for the mere purpose of proving that said invention was useful; and testified that he was secretary of the New York State Agricultural Society, and that he saw Mr. McCormick's machine in operation in England in July last; that he was one of the committee appointed at

the great fair in London to decide upon the merits of McCormick's and Hussey's reaping machines. That there were two trials. On the first trial the wheat was green; McCormick's reaper operated well—Mr. Hussey's failed; it clogged after the first two or three clips. There was a second trial a few weeks afterwards between the same reapers; the wheat was ripe. Both machines operated well; but the jury confirmed the decision of the former jury in favor of McCormick's machine, mainly on the ground that the wheat was raked off at the side, and by a raker riding on the machine.

Plaintiff's reaper is one of the best and most valuable agricultural implements now in use.

On cross examination the witness testified that both Hussey's and McCormick's reapers had been for a number of years in use in western New York, that of Hussey much the most extensively.

Louis De V. Wilder's deposition, taken before Patrick G. Buchan, county judge of Monroe county, at Rochester, on the 15th day of October, 1851, was then read on the part of the plaintiff, a copy of which deposition is hereto annexed, marked D.

William H. Beach's deposition, taken before the same county judge October 15th, 1851, was then read on the part of the plaintiff, together with the advertisement therein referred to, dated December 19, 1850, a copy of which deposition and advertisement is hereto annexed, marked E.

James Vick, junior, was then examined as a witness on the part of the plaintiff, and testified that he was one of the publishers of the Genesee Farmer, an agricultural paper printed at Rochester, and that the defendants caused to be published in that paper in January, 1850, an article on the subject of reapers; which article was then read by the plaintiff's counsel, a copy of which is hereto annexed, marked F.

Albert P. Dickey's deposition, taken at Chicago, in the State of Illinois, on the 8th day of October, 1850, was then read by the counsel for the plaintiff, together with the advertisements referred to therein, a copy of which deposition and advertisements are hereto annexed, marked G.

Harvey A. Blakesley's deposition, taken at Chicago, December 25, 1850, was then read by the counsel for the plaintiff, a copy of which deposition is hereto annexed, marked H.

Orloff M. Dorman's deposition, taken at Chicago, September 26, 1850, was then read by the counsel for the plaintiff, a copy of which deposition is hereto annexed, marked I.

Wm. H. Pells, of Ridgeway, Orleans county, State of New York, was then examined on the part of plaintiff, and testified that he was acquainted with plaintiff's reaper, containing the improvements patented in 1847; had operated it himself; that it performed its work extremely well. Every body who saw it in operation was highly satisfied with it. It cut 22½ acres of wheat in 10 hours. Witness sold two of the reapers for plaintiff immediately after this experiment.

Defence.

The defendants' counsel, R. H. Gillett, John H. Porter, and H. R. Selden, esquires, then produced and read in evidence the letters patent from the Government of the United States to William and Thomas Schnebley, dated August 22d, 1833, a copy of which letters patent is hereto annexed, marked No. 1.

The defendants' counsel then produced and read in evidence letters patent from the Government of the United States to Obed Hussey, dated December 31, 1833, a copy of which letters patent is hereto annexed, marked No. 2.

Obed Hussey's deposition, taken at Baltimore June 11, 1851, was then read on the part of the defendants, a copy of which deposition is hereto annexed, marked No. 3.

Edward Watkins's deposition, taken at Baltimore, June 11, 1851, was then read on the part of the defendants, a copy of which deposition is hereto annexed, marked No. 4.

The defendants' counsel then read from Loudon's Encyclopedia of British Agriculture, second edition, published in London in 1831, pages 422 to 427, inclusive, a description of the reaping machine invented and put in use by the Rev'd Patrick Bell, in Scotland, in the year 1828, a copy of which deposition is hereto annexed, marked No. 5.

William Schnebley was then sworn as a witness for the defendants, and testified that he had been many years engaged in the invention and construction of machinery, reaping machines, steam engines, printing presses, and other machines; that in 1833, and prior to that time, he resided at Hagerstown, in Maryland. That, while residing there, he and his brother Thomas invented and put in use the reaping machine described in the letters patent to them which had been read, dated August, 1833. That they commenced their experiments in 1825 or 1826, and continued them until their patent was obtained, and afterwards. That up to the time when their patent was obtained, he had never seen or heard of any reaping machines except theirs for cutting grain by horse power. That by their machine, the grain, after it was cut, was deposited on the ground by the side of the machine, in bunches or gavels, suitable for binding. That at first they used a reel to bring the grain against the cutters and deposit on the platform, and a revolving apron to remove it from there to the ground. That after using the machine some time the reel broke, and they contrived to use it without the reel, and found it to operate better without the reel than with, and they abandoned the use of the reel; subsequently they removed the revolving apron and placed a seat for a raker on the centre of the rear part of the platform, where he rode and raked off the grain, depositing it by the side of the machine, in bunches or gavels, suitable for binding. That in this way the machine operated well, and he used it a number of days in the harvest of 1834; the raker riding upon the seat before mentioned, and raking off the grain. The machine operated well, and a great many people witnessed its operation. That

after 1834, he was engaged in the invention or construction of printing presses, and subsequently of a rotary steam engine, and paid no further attention to the reaping machine. That he had read the specifications in McCormick's three patents for reaping machines, and particularly that of the date of October 23d, 1847; and examined the models of his machine produced in court, and did not think it would require invention to put the seat upon McCormick's machine, if no new arrangement of the machinery was thereby rendered necessary.

Augustus C. Brown's deposition, taken at Cincinnati, October 7th, 1850, was then read on the part of the defendants, together with two contracts between said Brown and the plaintiff, annexed thereto, one dated 19th September, 1844, and the other March 8th, 1845; also a handbill or circular, published as an extra of the Cincinnati Enquirer, signed by the plaintiff and dated March 1st, 1845; a copy of which deposition, and of the said two contracts and circular, are hereto annexed, marked Nos. 6, 7, 8, and 9.

Hiram Moore, of Kalamazoo, in Michigan, was then sworn and examined on the part of the defendants, and testified that he commenced building a harvesting machine in 1834, and that the building and improvement of such machines had occupied most of his time since. That in the winter of 1836 and 1837, he built two harvesting machines at Rochester, in the State of New York, which were used to some extent in the harvest of 1837, but not very much; subsequently the same machines have been successfully in use every year to the present time.

The defendants' counsel offer to prove by this witness, that in the machines constructed by witness in 1836–'7, he used a wheel board in all respects like the one used by the plaintiff in his machines, as described in his patent of October 23d, 1847, and answering the same purpose; the machines of the witness having a reel similar to *to* McCormick's.

This was objected to on the part of the plaintiff, on the ground that they did not claim in their specification the invention of the wheel board, nor its application, and that no proof in relation to it was competent. The defendants' counsel insisted that it was competent, and if not so for any other purpose, it was so as a circumstance to show that no inventive skill was required to produce that modification of the plaintiff's machine which was claimed to have been made necessary by the putting on or arrangement of the seat. The court sustained the objection, and the testimony was excluded. The defendants' counsel excepted to the decision.

The defendants' counsel then offered to prove by this witness, that he invented and put in use in the summer of 1837, in the two machines constructed by him in the winter of 1836–7, as before mentioned, two straight sickles or cutters, with the angle of the sickle teeth reversed every two or three inches, precisely as described and claimed by the plaintiff in his patent of January 31st, 1845, referred to in his patent of October 23d, 1847. This was objected to by the plaintiff's

counsel, and the objection sustained by the court, and the testimony excluded, to which decision the defendants' counsel excepted.

The defendants' counsel then offered to prove by this witness, that the machine could not be constructed from the specification in the patent of October 23d, 1847, and the drawings annexed thereto, without referring to the patent of January 31st, 1845, mentioned in the patent of October 23d, 1847; and that the witness was the first who invented and applied to use the knife or sickle claimed by the plaintiff in his patent of January 31st, 1845. This was objected to by the defendants' counsel, and the objection was sustained by the court, and the testimony excluded; to which decision the defendants' counsel excepted.

This witness testified that he was acquainted with the construction and operation of McCormick's reaping machine, as described in his patent of October 23d, 1847, and had examined the specification annexed to those letters carefully, and also the specification annexed to the letters patent of the plaintiff, dated January 31st, 1845. That in his judgment, according to his understanding of the term invention, it did not require invention to add the seat to the machine, as it was described in the patent of January 31st, 1845. That the adding of the seat did not require anything beyond, or different from, ordinary mechanical skill.

John Magness's deposition, taken at Cincinnati, October 8, 1850, was then read, a copy of which is hereto annexed, marked No. 10.

John Magness's deposition, taken at Cincinnati, October 8, 1851, was then read, a copy of which is hereto annexed, marked No. 11.

Augustus C. Brown's deposition, taken at Cincinnati, October 8, 1851, with the letter of the plaintiff to said Brown, dated April, 1845, an advertisement published by the plaintiff in 1844, in an agricultural paper in Ohio, called the "Plow Boy," an estimate made by said Brown of the cost of manufacturing McCormick's reapers, and twelve orders for reapers, annexed to said deposition, were read; a copy of which deposition, and of the letters and papers attached thereto, is hereto annexed, marked No. 12.

Edward R. Miller's deposition, taken at Cincinnati, October 8, 1851, was then read; a copy of which is hereto annexed, marked No. 13.

Thomas F. Zinc's deposition, taken at Cincinnati, October 8, 1851, was then read; a copy of which is hereto annexed, marked No. 14.

Columbus Smallwood's deposition, taken at Cincinnati, October 10, 1851, was then read; a copy of which is hereto annexed, marked No. 15.

William B. Stuart's deposition, taken at Cincinnati, October 10th, 1851, was then read; a copy of which is hereto annexed, marked No. 16.

William G. Lewis's deposition, taken at Cincinnati, October 11, 1851, was then read; a copy of which is hereto annexed, marked No. 17.

David G. Rose's deposition, taken at Laporte, in the State of In-

diana, on the 18th of October, 1850, was then read, with the handbill referred to therein; a copy of which deposition is hereto annexed, marked No. 18; and a copy of said handbill is hereto annexed, marked No. 9.

The defendants' counsel then read two articles published in May, 1846, by the plaintiff's request, in the Cultivator, an agricultural paper published at Albany, in the State of New York, said articles being read from pages 161 and 165 of volume 3 of the Cultivator; copies of which articles are hereto annexed, marked No. 19.

The defendants' counsel then read an extract from the bill of complaint filed by the plaintiff in this suit, against the defendants therein, in the circuit court of the United States for the northern district of New York, in equity, on the 18th day of May, 1850, for the purpose of obtaining an injunction against the defendants, to restrain them from finishing and selling the reaping machines then in process of construction by them, such extract extending from folio 78 to 91 inclusive, of said bill of complaint; a copy of which is hereto annexed, marked No. 20.

Jacob Sutphen's deposition, taken at Rochester, October 17th, 1851, was then read, a copy of which is hereto annexed, marked No. 21.

Perry Smith's deposition, taken at Rochester, October 17th, 1851, was then read, a copy of which is hereto annexed marked, No. 22.

Frederick P. Root's deposition, taken at Rochester, October 17th, 1851, was then read, a copy of which is hereto annexed, marked No. 23.

Jeremiah B. Shepard's deposition, taken at Rochester, October 17th, 1851, was then read, a copy of which is hereto annexed, marked No. 24.

George F. Barnett's deposition, taken at Rochester, October 17th, 1851, was then read, a copy of which is hereto annexed, marked No. 25.

Byron Densmore was then sworn and examined on the part of the defendants, and testified that he was engaged in the manufacture of farming implements; that he was acquainted with McCormick's reaping machine, used one in the harvest of 1846, manufactured by Backus, Fitch and Co., at Brockport; it was marked C. H. McCormick's Virginia Reaper, patented January, 1845. It had a seat for the raker, and was constructed substantially like model No. 1, introduced on this trial, though the proportions were somewhat different. It had no wheelboard, nor had any of the machines constructed by Backus, Fitch and Co., for the harvest of that year. He was frequently at their manufactory, and saw many of the machines constructed by them. He did the raking on the machine he used that season; found the position of the raker an uncomfortable one; it was too much confined, and the jolting was very severe.

That he was acquainted with Seymour and Morgan's machine, constructed for the harvest of 1850; had used them, and had done the raking upon them; there was no seat for the raker on their machine.

That it was not practicable for the raker to sit on their machine and do the raking.

That in his judgment it required nothing but ordinary mechanical skill to add the seat to McCormick's machine, as described in his patent of January, 1845, after knowing what had been done by Hussey and Schnebley.

Albert Dwelle was then sworn as a witness for the defendants, and testified that he resided in Albany, and was a machinist by occupation, and had been engaged in that buisness for 20 years and upwards; that he had examined the letters patent of the plaintiff, of January 31, 1845, and October 23d, 1847, and the specifications annexed thereto, and the models No. 1 and No. 3, introduced on the trial, also the model used on the trial representing Hussey's machine, as described in his letters patent before mentioned. That the arrangement of the seat on McCormick's machine was such as would naturally suggest itself to any good mechanic. It would not transcend the skill of an ordinary mechanic.

On being cross examined, the witness testified that the first suggestion that would occur to a mechanic would be, to place the seat at the rear of the platform, so that the raker would face the horses. If it were necessary to have the raker's position placed in reference to other parts of the machine, it would require study and experiment to ascertain that position; but he did not consider that an improvement discovered by experiment was an invention.

Ansell Chappell was then sworn on the part of the defendants, and testified that he became acquainted with the plaintiff's reaper in the harvest of 1844; the plaintiff brought one to his farm near Brockport for experiment. It had no seat for the raker. The raking was done by a man who walked by the side of the machine. Witness did most of the raking that season; Jeremiah B. Shepard did the residue. They together purchased the reaper of plaintiff, and cut about one hundred acres with it that harvest. Witness said he never saw any other machine that as good work could be done with as with that; he never saw any contrivance by which he could rake as well as with that machine, but it was hard work to walk and do the raking.

That the next year he saw another of plaintiff's reapers at Genesee; the plaintiff called on witness at Brockport and engaged him to go to Genesee and assist in putting the machine together, and in starting it. They used it at Genesee, a part of two days, and at Mount Morris a part of two days. There was a seat for the raker to ride on the machine; it was about the same as those since constructed, and in nearly the same position. It operated tolerably well. Plaintiff informed witness that it was built at Cincinnati, by a man of the name of Brown. It was marked C. H. McCormick's patent, 1845, on the front piece of the seat. Witness bought the machine and owned it as long as it lasted, and about a year ago cut it up. The gearing was back of the driving wheel, as in model No. 3. Witness frequently objected to the seat to McCormick; told him it was so wide that the raker could not stand and

rake. Witness don't recollect what plaintiff said in reply; thinks he said it might be better, but that the seat was not intended for the raker to stand. The seat on the Mount Morris machine was a little different in its form and location from the present seat on his reapers; the present seats are much better.

On cross examination, the witness stated that he had seen the reapers in use for the last three or four years; all had seats or positions for the raker to ride on the machine.

Joseph Ganson was then sworn as a witness on the part of the defendants, and testified that he was one of the firm of Backus, Fitch & Co., who manufactured upwards of one hundred of McCormick's reapers at Brockport, in the year 1846. They had a raker's seat, but no wheel board.

Thomas D. Bunall was then sworn and examined as a witness on the part of the defendants, and testified that he carried on the business of manufacturing agricultural implements, steam engines, and other machinery, at Geneva, in the State of New York, for twenty years and upwards; that he had been acquainted with the plaintiff's reaper since it had been introduced in western New York, both before and after the seat was added; that the adoption and introduction of the seat, in the judgment of the witness, involves only mechanical skill as distinguished from invention. It would require a series of experiments to ascertain the proper place for the position of the raker; if that position, thus ascertained, enabled the raker to rake off the grain with more ease, it might be termed an invention.

Lyman B. Langworthy, sworn and examined on the part of defendants, testified that he was a farmer residing near Rochester; that he had been engaged in the manufacture of machinery most of the time for upwards of fifty years; that he was bred a watchmaker, and from that went into a foundry and machine shop, and carried on the business of manufacturing machinery for many years.

That in 1844 he first saw the plaintiff's reaper; that he was one of a committee who witnessed its operation that season in a wheat field near Rochester, and wrote the report of the committee in relation to it, which was published in the newspapers at that time, and a copy furnished to the plaintiff. The machine operated well. It had no seat for the raker; the raker walked by the side of the machine. Witness suggested to Mr. McCormick then the putting on of a seat for the raker. I don't think it would require invention to put a seat on plaintiff's reaper, but if others had attempted it and had failed, and plaintiff had succeeded, I should think it an invention.

Charles M. Gray's deposition, taken at Chicago, October 16, 1851, was then read on the part of the defendants, a copy of which deposition is hereto annexed, marked No. 26.

Theron Pardee's deposition, taken at Chicago, October 16, 1851, was then read on the part of the defendants, a copy of which is hereto annexed, marked No. 27.

William B. Ogden's deposition, taken at Chicago, October 16, 1851,

was then read on the part of the defendants, a copy of which is hereto annexed, marked No. 28.

By Plaintiff.

William Dwyer's deposition, taken at Chicago, October 16, 1851, was then read, on the part of the plaintiff, a copy of which is hereto annexed, marked J.

Orson D. Richard's deposition was then read on the part of the plaintiff, a copy of which is hereto annexed, marked K.

Augustine Porter's deposition was then read on the part of the plaintiff, a copy of which is hereto annexed, marked L.

Phineas W. Dickey's deposition was then read on the part of the plaintiff, a copy of which is hereto annexed, marked M.

John Hanna's deposition was then read on the part of the plaintiff, a copy of which is hereto annexed, marked N.

William S. McCormick's deposition was then read on the part of the plaintiff, a copy of which is hereto annexed, marked O.

Albert P. Dickey was then sworn and examined in behalf of the plaintiff, and testified that he had been engaged in selling and putting in use the plaintiff's reapers since 1849. In the reapers made prior to that year there was no place for the driver to ride on the machines. In the machines made for the harvest of 1849, the gearing was put back by the side of the driving wheel, and a seat for the driver was arranged on the machine. It was necessary to put the gearing back to balance the driver, put on forward. Had seen many of Seymour & Morgan's machines in use; most of them had canvass, or some covering, over the sharp edge on the box, so that the raker could sit on it, and many of them had sheepskins around the iron arms. Witness testified that he had seen a person sit on the box and rake off the grain, when the grain was light; it could not be done when the grain was heavy. That the position of the raker on McCormick's machine was a much easier one than on Seymour & Morgan's machine.

On cross examination witness testified, that he had before been examined as a witness in this cause at Chicago, and his deposition taken, which had been read; that he then testified to a conversation with Mr. Seymour, one of the defendants, at Wisconsin; he had since ascertained that it was Mr. Fitch, of the firm of Fitch, Barry & Co., that he had the conversation with.

Levi Cooley was then sworn and examined as a witness on the part of plaintiff, and testified that he was a mechanic, and resided at Brockport in 1847; he made for the defendants two hundred reels for reaping machines, and shortened the ribs of a number of reels which had been made for machines the previous year; shortened them about eight inches; and he thought they moved the gearing end of the reel shaft a little forward, and a board was put on to aid in dividing. The reel, before it was cut off, overlapped the hound a little.

Aaron Miller, recalled and examined on the part of plaintiff, says he assisted in 1847, for Fitch, Barry & Co., in shortening the reels of

machines built the previous years; shortened some 50 or 60, and put on wheel boards. It was done by direction of Mr. McCormick; he was about there most of the time.

Manley C. Sadler was then sworn and examined on the part of the plaintiff; says that he was one of the firm of Backus, Fitch & Co. I have been acquained with plaintiff's reaper since 1840; since then, I have seen the plaintiff's Mount Morris reaper at our shop, during the harvest of 1846. It was ascertained that the grain interfered with the gearing of the machine. I recollect talking with the plaintiff about it; the plaintiff directed the reel to be shortened, and the wheel board to be put on to the machines to be made for the next harvest.

Joseph Vantine was then called as a witness by plaintiff's counsel, and testified that he was acquainted with plaintiff's reapers; that the present seat for the raker could not be used on the old machines made at Cincinnati with board seats; the reel of those machines would prevent the raker being placed in the position he is by the seat as now constructed by plaintiff.

Thomas D. Vail's deposition, taken at Chicago, June 14, 1851, was then read, a copy of which is hereto annexed, marked P.

Guy Collins was then sworn and examined as a witness on behalf of the plaintiff, and testified that he resided in Bloomfield, Ontario county; was a farmer, and bought one of McCormick's reapers in 1846, manufactured at Brockport. Used it that year, and since till the present season; cut from 150 to 200 acres a year with it. Used it two years, and then took it back to Brockport, and had a larger driving wheel put in, and a wheel board put on. The wheel board was necessary, after the reel was shortened, to make room for the raker's seat, because without it the grain would clog up the gearing. It is much easier to do the raking on plaintiff's reaper, as the seat is now arranged, than to cradle.

Charge of the court.

The court then charged the jury as follows:

The patent in this case, on which the action is brought, was granted to the plaintiff on the 23d of October, 1847, and the application to the patent office was filed in that office on the 3d of April preceding.

The application was for a new and useful improvement in the reaping machine, and the particular improvement was described in the papers accompanying the application; and it is said to consist in so arranging the construction of the existing machine or reaper as to procure a seat or position on the machine for the raker, to enable him to ride, instead of walking by the side of the machine, and at the same time perform the raking as well if not better than when walking by the side of it.

The patentee states that certain defects existed in the construction of the previous machines. The driving wheel of the machine was placed forward of the machinery that operated the vibrating sickle or cutter, and so far forward as to leave too much of the weight back of

3195.

the driving wheel, thereby tending to strain the team, as well as the frame and structure of the machine; the gearing also, that communicates action to the crank, is placed back of the driving wheel, and therefore subject to be clogged by rubbish, dirt, and straw upon the field; and, in consequence of the relative position of its various parts, the raker is obliged to walk upon the ground, by the side of the machine, to rake the cut grain from the platform where it was delivered by the reel.

These defects, the patentee states, have retarded the introduction of the reaper into general practical use; all of which he claims to have remedied by the improvements in question.

To overcome these difficulties, he states that he places the driving wheel further back than before, and back of the gearing, which gives motion to the sickle or cutter, and also of the cog wheel that operates the crank; and in this way he is enabled to balance the frame and machinery with the raker on it, and at the same time obtain sufficient room for him to sit or stand upon the frame, back of the driving wheel, with his back to the horses; and that from this position, and the new arrangement of placing the reel further forward than before, and making it shorter, with the aid of a wheel board to prevent the grain passing under the machine, and avoiding the necessity and inconvenience of a long reel, the raker can rake off the grain with a sweep of the rake, having free use of his body, so as to lay all the grain on the ground, with the heads outward, at right angles with the swath.

The patentee then gives a particular description of the construction of the different parts of the machine, for the purpose of enabling a mechanic of ordinary skill and experience to construct one, by following out the description given; and then concludes by setting forth what he claims as his improvement; in other words, the thing which he claims to have discovered or invented, and which is as follows, so far as the claim is material to this controversy:

"And I also claim as my invention the arrangement of the seat of the raker over the end of the finger piece, and just back of the driving wheel, as described, in combination with and placed at the end of the reel, whereby the raker can sit with his back toward the team, and thus have free access to the cut grain laid upon the platform, and back of the reel, and rake it from thence on to the ground by a natural sweep of his body, and lay it in a range at right angles with the swath, as described, thereby avoiding unevenness and scattering in the discharge of the wheat, as well as accomplishing the same with a great saving of labor."

Now, the first question to be determined in this controversy is this: What has the patentee described and claimed in his patent, that he has invented? This question is especially necessary to be determined, with a view to ascertain, first, whether or not it is such a discovery or invention as authorized the granting a patent under our patent laws; and, second, if it is, whether the defendants' machine is or is not an infringement? And this question, I have stated to you, must be deter-

mined by looking into the description given by the patentee of his invention, in connexion with the claim, more particularly specified at the close of it.

Now, on looking into this description and claim, which is before us, and which has been read by the learned counsel on both sides, it is quite apparent that the improvement is not simply putting a seat on the machine for the raker; that is not the improvement described, nor as particularly and specially set forth in the claim. The improvement there described and claimed is the arrangement and combination of the parts of the machinery, so that the patentee was enabled to obtain room on the machine for the raker, and that he might there have the free use of his body and limbs in raking off the cut grain, and thereby avoid the labor, and fatigue, and inconvenience of the raker walking by the side of the machine. This is the improvement the patentee claims to have discovered and perfected; the seat, or position of the raker on the machine, was the object he had in view, and is the result of this new arrangement and combination of the different parts of the machine; it is the useful result that makes the arrangement the subject of a patent. There was nothing new in the fact of a seat, or position for the raker, being put on the reaping machine; this was the fact as respected Hussey's and Schnebley's machines, both of which were patented as early as 1832 and 1833. The mere fact of simply putting a seat on the reaping machines would have been idle. Every body who has seen those machines, particularly Hussey's, know there was nothing novel in this simple fact; and it would have been absurd, therefore, to have set up any such claim; there would have been nothing new in it. The point sought to be attained by the plaintiff in this case was the obtaining a seat or position on the reaper, of the peculiar construction of the one he had in use, and this, as claimed, depended upon the new arrangement and combination of the different parts of the machine.

Now there are some things in this case which have appeared, in the course of the trial and examination of witnesses, bearing more or less upon the issue between the parties, that are not, after the case has been brought out fairly, the subject of controversy, and which we may as well lay out of the case, and thereby simplify it. I refer particularly to the experiments of Hussey and Schnebley, in the use of the seat of the raker on the machines, in connexion with the reel, which have been developed by Hussey, by Schnebley, and by two or three other witnesses. In the first place, these experiments, if they were not carried out into successful, practical operation, constituted no obstacle to the improvement of the plaintiff, or of any other person who may have chosen to try the experiment in the line of improvement; and even supposing the plaintiff had followed out the improvement and experiments made by Hussey and Schnebley, and had succeeded in obtaining the useful, practical result of the arrangement and combination, if the proper subject of a patent he would have been entitled to it, in preference to any other person, because, in order to entitle a person to the char-

acter of an inventor, and his invention to become the subject of a patent, he must not stop at unsuccessful experiments, but continue until he has brought out a machine producing a useful result; and without this his invention would be worthless to the community, and undeserving the protection of the law.

In the next place, the arrangement of both Hussey and Schnebley was a different one from the plaintiff's. They sought to obtain the same result—a seat on the machine in combination with the reel—for the cutting of the grain. That was what they were in pursuit of, but by a different mode. They used a revolving platform or apron to bring the cut grain to the raker, standing or sitting on the side of the machine, back of the driving wheel; their reel interfered with the reach of his rake, while on the platform, so that he was not able to get out the cut grain laid upon the platform by the reel; and hence the arrangement of the revolving apron on which the grain fell, for the purpose of bringing it under the reel and to the feet of the raker, so that he might be able to lay it on *on* the ground. That was their contrivance, but it was not the contrivance described on the part of the patentee in this case, nor does it interfere at all with his invention. If they had succeeded, they would unquestionably have been entitled to a patent for accomplishing so desirable an object, and for their ingenuity and skill in producing so desirable a result.

Now, the same difficulty occurred to Hussey and Schnebley, in the unsuccessful experiments and trials they made to get out the grain with the raker on the machine, that the patentee had to encounter, and which he has accomplished by this new arrangement and combination, dispensing altogether with this revolving apron, which had been tried by Hussey and Schnebley, and which had been given up by them and abandoned. It would seem to me, therefore, from this view of the testimony, and about which there is no controversy, that the plaintiff must be regarded as the first person who has successfully devised, and made complete, a reaper of the description set forth in his patent, combining a practical seat or position for the raker upon the machine, so as to ride and do the work in connexion with the operation of the reel used in the process of cutting the grain, and thereby producing an instrument of very great utility to the agricultural interests of the country.

It is said by the learned counsel for the defence, that admitting all this to be true, conceding that the plaintiff was the first person who succeeded in getting a practical place upon the machine for the raker to ride and do his work, admitting all this to be true, just as it has been described and claimed in the patent, that still there was not novelty or skill enough in it to constitute an invention within the meaning of the patent law; and some of the witnesses, called as experts, have expressed the same opinion.

Now, as bearing materially upon this question of ingenuity and skill essential to bring out the improvement claimed by the plaintiff, it will be well to recur for a moment to the history of the improvement. Schnebley tried it in 1833 and '34. You, gentlemen, remember his

mined by looking into the description given by the patentee of his invention, in connexion with the claim, more particularly specified at the close of it.

Now, on looking into this description and claim, which is before us, and which has been read by the learned counsel on both sides, it is quite apparent that the improvement is not simply putting a seat on the machine for the raker; that is not the improvement described, nor as particularly and specially set forth in the claim. The improvement there described and claimed is the arrangement and combination of the parts of the machinery, so that the patentee was enabled to obtain room on the machine for the raker, and that he might there have the free use of his body and limbs in raking off the cut grain, and thereby avoid the labor, and fatigue, and inconvenience of the raker walking by the side of the machine. This is the improvement the patentee claims to have discovered and perfected; the seat, or position of the raker on the machine, was the object he had in view, and is the result of this new arrangement and combination of the different parts of the machine; it is the useful result that makes the arrangement the subject of a patent. There was nothing new in the fact of a seat, or position for the raker, being put on the reaping machine; this was the fact as respected Hussey's and Schnebley's machines, both of which were patented as early as 1832 and 1833. The mere fact of simply putting a seat on the reaping machines would have been idle. Every body who has seen those machines, particularly Hussey's, know there was nothing novel in this simple fact; and it would have been absurd, therefore, to have set up any such claim; there would have been nothing new in it. The point sought to be attained by the plaintiff in this case was the obtaining a seat or position on the reaper, of the peculiar construction of the one he had in use, and this, as claimed, depended upon the new arrangement and combination of the different parts of the machine.

Now there are some things in this case which have appeared, in the course of the trial and examination of witnesses, bearing more or less upon the issue between the parties, that are not, after the case has been brought out fairly, the subject of controversy, and which we may as well lay out of the case, and thereby simplify it. I refer particularly to the experiments of Hussey and Schnebley, in the use of the seat of the raker on the machines, in connexion with the reel, which have been developed by Hussey, by Schnebley, and by two or three other witnesses. In the first place, these experiments, if they were not carried out into successful, practical operation, constituted no obstacle to the improvement of the plaintiff, or of any other person who may have chosen to try the experiment in the line of improvement; and even supposing the plaintiff had followed out the improvement and experiments made by Hussey and Schnebley, and had succeeded in obtaining the useful, practical result of the arrangement and combination, if the proper subject of a patent he would have been entitled to it, in preference to any other person, because, in order to entitle a person to the char-

acter of an inventor, and his invention to become the subject of a patent, he must not stop at unsuccessful experiments, but continue until he has brought out a machine producing a useful result; and without this his invention would be worthless to the community, and undeserving the protection of the law.

In the next place, the arrangement of both Hussey and Schnebley was a different one from the plaintiff's. They sought to obtain the same result—a seat on the machine in combination with the reel—for the cutting of the grain. That was what they were in pursuit of, but by a different mode. They used a revolving platform or apron to bring the cut grain to the raker, standing or sitting on the side of the machine, back of the driving wheel; their reel interfered with the reach of his rake, while on the platform, so that he was not able to get out the cut grain laid upon the platform by the reel; and hence the arrangement of the revolving apron on which the grain fell, for the purpose of bringing it under the reel and to the feet of the raker, so that he might be able to lay it on *on* the ground. That was their contrivance, but it was not the contrivance described on the part of the patentee in this case, nor does it interfere at all with his invention. If they had succeeded, they would unquestionably have been entitled to a patent for accomplishing so desirable an object, and for their ingenuity and skill in producing so desirable a result.

Now, the same difficulty occurred to Hussey and Schnebley, in the unsuccessful experiments and trials they made to get out the grain with the raker on the machine, that the patentee had to encounter, and which he has accomplished by this new arrangement and combination, dispensing altogether with this revolving apron, which had been tried by Hussey and Schnebley, and which had been given up by them and abandoned. It would seem to me, therefore, from this view of the testimony, and about which there is no controversy, that the plaintiff must be regarded as the first person who has successfully devised, and made complete, a reaper of the description set forth in his patent, combining a practical seat or position for the raker upon the machine, so as to ride and do the work in connexion with the operation of the reel used in the process of cutting the grain, and thereby producing an instrument of very great utility to the agricultural interests of the country.

It is said by the learned counsel for the defence, that admitting all this to be true, conceding that the plaintiff was the first person who succeeded in getting a practical place upon the machine for the raker to ride and do his work, admitting all this to be true, just as it has been described and claimed in the patent, that still there was not novelty or skill enough in it to constitute an invention within the meaning of the patent law; and some of the witnesses, called as experts, have expressed the same opinion.

Now, as bearing materially upon this question of ingenuity and skill essential to bring out the improvement claimed by the plaintiff, it will be well to recur for a moment to the history of the improvement. Schnebley tried it in 1833 and '34. You, gentlemen, remember his

account of it, and he said he had been engaged in experiments upon it since 1825, or '26, and had abandoned it. His contrivance was to bring the grain to the raker, so as he could take it off and stand on the machine. Hussey tried it, used the same device and arrangement, and gave it up. The patentee himself has been engaged ever since 1833 in experimenting and improving his machine, devoting his whole time to the production of a successful reaping instrument, and he did not succeed in getting a practical position for the raker on the machine until 1846, or 1847; and nobody had accomplished it before, although we are now in the 19th century. These are the only persons, those to whom I have alluded, for aught that appears, who have ever undertaken the experiment, or to work it out, and the patentee is the only one who has succeeded, notwithstanding it is supposed to be so very simple that any ordinary mechanic, laying his eye on the machine, could work out the result without the necessity of any other ingenuity.

It seems to me exceedingly difficult to reconcile the history of this improvement with the assumption that it is destitute of ingenuity and skill, except that belonging to any intelligent mechanic, and therefore not the subject of a patent.

But what is an invention, within the meaning of the patent law? As it respects machines, it is this: Any new arrangement and combination of machinery, whether of old or new parts or materials, producing a new and useful result. This is what constitutes an invention within the meaning of the law, and entitles the inventor to a patent. This is one of the descriptions of the subject of invention, or of what constitutes invention, as it relates to a new manufacture of machinery.

Then assuming that the plaintiff is the first original inventor of this new and useful improvement, producing this beneficial result, the next main question is, whether or not anything has since occurred by which he has lost his right to the benefit of his patent?

First, it is contended, on the part of the defence, that his first machine, with the position for a raker, was a failure; that it turned out to be impracticable and useless, and that the changes necessary to make the improvement practically useful belong to the suggestion of others; and second, if not the suggestions of others, but his own, then the plaintiff has by his acts dedicated his invention and machine to the public, or, in other words, has forfeited his right to the enjoyment of his invention.

First, as to the suggestions of others. This refers, as you recollect, to the suggestions of workmen in Cincinnati concerning the machines in 1844 and '45—those of Brown, Zinc, and Magness. Now it is not important to dwell on this part of the case. These suggestions, one and all, fall far short of the evidence necessary to constitute them the discoverers of this new arrangement claimed by the plaintiff. They suggested that the seat should be elevated. That alone would undoubtedly have been a very simple act, and of itself would amount to nothing in the way of invention; and if it was all that the patentee

in this case had done, there was no need of the patent. It would amount to nothing, whether suggested by the plaintiff or other persons; there was nothing in it.

What seems to afford very strong grounds for doubting whether this simple change would have the effect, or would have had the effect, to perfect and complete the machine, is the fact that about one hundred of the machines, with the old board seats, went into the hands of the farmers throughout the west, all of whom found the seat impracticable, threw it away, and worked the machine by following it on the ground. That was the case up to 1845. If the simple thing of raising the seat would have remedied the defect, and enabled the raker to ride on the machine, it is remarkable, very remarkable, that no one of those one hundred persons in the great west using the machines, or some other person witnessing their operation, had not made a change so simple and so beneficial to every one. Certainly it would have been the most natural thing that would have occurred to an intelligent mind, and the most natural results of its use. The simple elevation of the seat ten or twelve inches, if that was the only obstruction to riding, would have occurred to almost any of those using it.

This consideration affords very strong evidence that the difficulty was not so easily remedied as supposed, and that something more was necessary to be done in order to avoid it. We can hardly believe that an intelligent farmer would travel by the side of his machine, raking off the grain, if by simply elevating the seat on it he could as well ride.

Another suggestion. We can well understand that a seat might be too low for practical purposes, but then if the raker stood upon the machine to accomplish his work, especially if somewhat tall, would seem to meet the difficulty supposed by the men at Cincinnati.

It is conceded by the evidence that the seat has been raised but ten or twelve inches; that they are made but ten or twelve inches higher than the old board seat of '45; certainly if the raker stood upon the platform, he would have been sufficiently high, if it required but twelve inches difference from sitting on the seat. All this goes to discredit, and leads us to doubt the assumption that the arrangement is the invention or originated with the suggestions of the workmen, and to make us more fully convinced that a much more extensive and ingenious arrangement was necessary in order to accomplish this desirable result.

Second, as to the dedication to the public, or forfeiture of the invention; admitting that the patentee was the first and original inventor of this arrangement, and that he is entitled to a patent, or that it is the subject matter of a patent, then the question is, as to the dedication to the public use or forfeiture of it, so as to deprive him of the enjoyment of its fruits. A patentee or an inventor has a right to try his machine, and continue his experiments until he has perfected his improvements. Such is the law, and it is obvious to common sense. Now the character and use of these machines, and this without the

hazard of dedication or forfeiture, its adaptation to the purposes for which it was designed, somewhat embarrassed these trials and experiments.

They could be made, as you know, only during the harvesting season, once a year. After the harvest was over and the grain reaped, no further experiments could be made until the succeeding season.

Of course this was an embarrassment that all persons who attempted to work out this experiment encountered. If an improvement is undertaken in an ordinary piece of machinery for manufacturing purposes, it may be tried at all seasons of the year, from day to day, until the machine is perfected. In this case the invention was confined to the short season of harvest, and that alone, for actual experiment and practical use. If then the facts in the case should satisfy you, gentlemen; should establish with reasonable certainty that this improvement on the machine of the patentee was not perfected until the harvest of 1846, the harvest preceding the granting of the patent, the application having been made the succeeding April of 1847, then there is no question on the subject as respects dedication or forfeiture. He had the right to experiment, and the right to try his machine in '45 and '46, until he had perfected the improvement, so as to entitle him to the confidence of the purchaser; and if he did not succeed and did not perfect the improvement by his trial and experiments till during the harvest of '46, why certainly there was no dedication or forfeiture; besides, if the machines were perfected as early as 1845, there is no necessary forfeiture, for a patentee or inventor may make and sell within the period of two years anterior to his application for a patent for his improvement or invention. This is authorized by the act of 1839, to which your attention has been called. The application was made on the 3d of April, 1847. Two years back would carry it to the third of April, 1845. Now before this, the only machines made and sold, according to the evidence, were those with the old board seat, which was regarded as useless and thrown aside. All testify to this, and down to that time, therefore, the machine may be considered as having no seat, or without a position for the raker to sit upon. It was the old machine, and the raker was obliged to walk by the side. The old machines remained as they were before the trials and experiments were made.

This case, gentlemen, has heretofore been before me, and I will call your attention to the observations made at a former time on this branch of it. The next question is that of abandonment. The mere fact of making and selling an improvement or invention, or putting it into public use at any time within two years before the application for a patent, is not of itself an abandonment of the invention to the public. The right thus to use his invention before the granting of a patent is a right conferred on the inventor by the act of 1839. Something more must be done within the two years; there must be some acts of the inventor, or some declaration of his in connection with his acts, indicating an intention on his part to devote his improvement to the public in general, in order to authorize the jury to come to the conclusion

that he has so abandoned it. It is for them to say whether the acts of the plaintiff, within the two years, satisfy them that it was his design and intention to devote the invention to the public at large, as a gratuity, and without receiving a consideration for its bestowal. It is proper for me to say, also, that those who rely upon the ground that a party has forfeited a legal right secured to him in due form of law, for the purpose of defeating his enjoyment of that right, must make out the point clearly and satisfactorily beyond reasonable doubt or hesitation, because the law does not favor an abandonment, and throws upon the party who seeks to obtain the benefit of a forfeiture the burden of proving it beyond all reasonable question.

Now, gentlemen, if from the evidence you believe the plaintiff to be the original inventor of the improvement, and that it is the subject of a patent, if the plaintiff has not abandoned or forfeited his right to a patent, nor dedicated his invention to the public, the next question is, whether or not the machine of the defendants is an infringement upon the plaintiff's patent; and upon this point I will refer you to the observations I submitted when this cause was before me on a former occasion.

The next material question is, whether or not the defendants' arrangement of the seat, or position for the raker, is like that of the plaintiff, and whether or not the construction and use of it by them is an appropriation of his contrivance; was an infringement of his machine. Now, I lay aside the mode of constructing these respective seats; I mean their form—whether they are constructed with the seat extending between the legs of the raker, with a front piece to support him, or with no seat between his legs, and only a support around his body. I lay all that out of view, because I do not think the form of the seat is embraced in the plaintiff's invention. It may be of one form or of another, and it is very likely that the practical use of the machine by the raker is the only true test for determining what form of seat would be most advantageous and least injurious. The raker would work out the best form of seat by actual trial. He might cushion the seat, or make it of any form he pleased, but that would not enter into the invention, or have any thing to do with its merits. The invention is the arrangement by which the raker can be placed where he is placed, standing or sitting, and do his work. You will then take up the defendants' machine, laying the seat out of view, and see whether their construction, arrangement and combination for the purpose of obtaining a position for the raker on the machine, involves the combination of the plaintiff. If it does, then it is an infringement; if it does not, then it is an independent contrivance, and they are entitled to its enjoyment. This is all that I think it is necessary to say upon the subject of the arrangement of the seat.

The next and only remaining question is that of damage. You will perceive, from the view I have taken of the case and presented to you, that the first inquiry is, whether or not the plaintiff in the case is the inventor of the improvement in question, and whether it is new

and useful. If it is not, there is an end of the case. If it is a new and useful improvement, then has the patentee forfeited or abandoned it? And next, whether the machine of the defendants is an infringement. If you agree with the views taken on the part of the plaintiff you reach the question of damages. If against the plaintiff, on all or any one of them, there is an end of the case.

On the subject of damages I will call your attention again to my remark submitted to the jury on a former trial, as they will no doubt be more brief, and fully express my views.

The only remaining question is that of damages. The rule of law on this subject is a very simple one. The only difficulty that can exist is in the application of it to the evidence in the case. The general rule is that the plaintiff, if he has made out his right to recover, is entitled to the actual damages he has sustained by reason of the infringement, and those damages may be determined by ascertaining the profits which in judgment of law he would have made, provided the defendants had not interfered with his rights. That view proceeds upon the principle that if the defendants had not interfered with the patentee, all persons who bought the defendants' machines would necessarily have been obliged to go to the patentee and purchase his machine. That is the principle on which the profits that the patentee might have made out of the machines thus unlawfully constructed, present a ground that may aid the jury in arriving at the damages which the patentee has sustained.

It has been suggested by the counsel for the defendants, that inasmuch as the claims of the plaintiff in question here are simply for improvements upon his old reaping machine, and not for an entire machine and every part of it, the damages should be limited in proportion to the value of the improvements thus made, and that therefore a distinction exists, in regard to the rule of damages, between an infringement of an entire machine and an infringement of a mere improvement on a machine. I do not assent to this distinction. On the contrary, according to my view of the law regulating the measure of damages in cases of this kind, the rule which is to govern is the same whether the patent covers an entire machine or an improvement on a machine. Those who choose to use the old machine have a right to use it without incurring any responsibility; but if they engraft on it the improvement secured to the patentee, and use the machine with that improvement, they have deprived the patentee of the fruits of his invention, the same as if he had invented the entire machine; because it is his improvement that gives value to *to* the machine on account of the public demand for it. The old instrument is abandoned, and the public call for the improved instrument, and the whole instrument, with the improvement upon it, belongs to the patentee. Any person has a right to use the old machine; and if an inventor engrafts upon an old machine, which he has a right to use, an improvement that makes it superior to anything of the kind for the accomplishment of its purposes, he is entitled to the benefit of the operation of the machine under all circumstances

with the improvement engrafted upon it, to the same degree in which the original inventor is entitled to the old machine.

There are some data, furnished by the counsel on both sides, which it is proper the jury should take into view in ascertaining the damages, provided they arrive at this question in the case. It is conceded that just 300 machines have been made by the defendants, of the description to which I have called your attention, and testimony has been gone into on both sides for the purpose of showing the cost of the machines, and the prices at which they sold. In order to ascertain the profits accruing to the party who makes machines of this description, you must first ascertain the cost of the materials and labor, and the interest on the capital used in the manufacture of the machines. You must also take into account the expense to which the manufacturer is subjected in putting them into market, such as that of agencies and transportation, also of insurance; and where the article is sold on credit, a deduction must also be made for bad debts. All these things must be taken into account, in order to bring into the cost every element that properly goes to constitute it in the hands of the manufacturer. When you have ascertained the aggregate sum of the cost, deduct it from the price paid by the purchaser, and you have the net profit on each machine. By this process you are enabled to approximate to something like the actual loss that the patentee sustains in a case where his right has been violated by persons interfering with him and putting into market his improvement. There is considerable difference between the witnesses for the respective parties in their testimony as to the cost of constructing the machines. I believe that the witnesses on the part of the plaintiff brought down the cost to thirty-seven dollars on each machine, and stated the net profit on each to be, on an average, over sixty dollars; while the witnesses on the part of the defendants put the cost at some sixty-seven dollars, including work, labor, and expenses; and some made it even higher than that, including the expenses of collecting debts and of agencies. It appears that the machines have been sold at prices varying from a hundred dollars for cash, up to one hundred and twenty dollars and one hundred and twenty-five dollars on credit, depending somewhat upon the place to which they have been sent. Many have gone to a considerable distance into various States, and there is a difference in the price of the machines, whether they are bought at the factory or at distant points.

The question of damages will depend on the good sense and sound judgment of the jury, upon the facts which have been introduced to show the loss which has been sustained by the patentee, or, in other words, the profits he would have made if the infringement had not occurred. The question, therefore, is one which the jury must decide with caution, care, and prudence, and they must confine the measure of damages to the fair and actual loss which the patentee has in their judgment sustained, on account of the infringement by the defendants, provided on an accurate estimate you can arrive at the actual damages. You are authorized, if you deem it proper under

the circumstances of the case, to allow the plaintiff interest on them from the commencement of the suit.

August 24th, 1850.

Exceptions.

To so much of the charge as states that "it is quite apparent that the improvement is not simply putting a seat on the machine for the raker; that is not the improvement described, nor as particularly and specially set forth in the claim; the improvement there described and claimed is the arrangement and combination of the parts of the machinery, so that the patentee was enabled to obtain room on the machine for the raker, and that he might there have the free use of his body and limbs in raking off the cut grain, and this as claimed depended upon the new arrangement and combination of the different parts of the machine;" the defendants' counsel excepted.

To so much of the charge as states what constitutes invention, as follows: "It is any new arrangement and combination of machinery, whether of old or new parts or materials, producing a new and useful result; this is what constitutes invention within the meaning of the law, and entitles the inventor to a patent;"—the defendants' counsel excepted.

To those parts of the charge given, as follows: "If then the facts in the case should satisfy you that this improvement on the machine of the patentee was not perfected until the harvest of 1846, the harvest preceding the granting of the patent, the application having been made the succeeding April of 1847, then there is no question on the subject as respects dedication or forfeiture;" * * the defendants' counsel excepted.

To that part of the charge given as follows: "This case, gentlemen, has heretofore been before me, and I will call your attention to the observations made at a former time on this branch of it. The next question is that of abandonment. The mere fact of making and selling an improvement or invention, or putting it into public use, at any time within two years before the application for a patent, is not of itself an abandonment of the invention to the public. The right thus to use his invention before the granting of a patent is a right conferred on the inventor by the act of 1839. Something more must be done within the two years; there must be some acts of the inventor, or some declaration of his in connexion with his acts, indicating an intention on his part to devote his improvement to the public in general, in order to authorize the jury to come to the conclusion that he has so abandoned it."—The defendant's counsel excepted, and asked the court to charge the jury that, if the acts of the defendant were such as to naturally induce a belief on the part of the public that he intended to abandon his invention to the public, the jury were authorized to find that he had so abandoned, whether such was his intention or not. The court refused to alter its charge on that question, and the defendants' counsel excepted.

The defendants also asked the court to charge the jury that the extensive sales made by the plaintiff of his machine containing his improvement, prior to his application for a patent, together with his advertisements of them in the public papers, and marking all the machines so sold as "patented in January, 1845," were such circumstances, and authorized the jury in their discretion to find that the plaintiff had abandoned his invention to the public. The court refused so to charge, and the defendants' counsel excepted.

To that part of the charge which states that "the invention is the arrangement by which the raker can be placed where he is placed, standing or sitting, and do his work," the defendants' counsel excepted.

To that part of the charge which states "the general rule is that the plaintiff, if he has made out his right to recover, is entitled to the actual damages he has sustained by reason of the infringement; and those damages may be determined by ascertaining the profits which, in judgment of law, he would have made, provided the defendants had not interfered with his rights. That view proceeds upon the principle that, if the defendants had not interfered with the patentee, all persons who bought the defendants' machines would necessarily have been obliged to go to *to* the patentee and purchase his machine;"—the defendants' counsel excepted.

To that part of the charge which states that, "according to my view of the law regulating the measure of damages in cases of this kind, the rule which is to govern is the same, whether the patent covers an entire machine or an improvement on a machine," the defendants' counsel excepted.

To so much of the charge as directed the jury that they were authorized to allow interest from the time of the commencement of the suit, the defendants' counsel excepted.

The defendants' counsel requested the court to charge the jury that the only changes in the machine described by the plaintiff in the patent of 1845, proposed by the plaintiff in order to introduce the seat, or the position for one, was the shortening the reel, and placing it further forward, without stating how much. The court refused so to charge, and the defendants' counsel excepted.

The defendants' counsel also requested the court to charge the jury that, if they find it was not necessary to shorten the reel, or move it forward, in order to introduce the raker's seat or position, then the plaintiff could not recover. The court refused so to charge, otherwise than it had charged, and the defendants' counsel excepted.

The defendants' counsel also requested the court to charge the jury that, if they should find that the thing patented by the plaintiff was suggested to him by another, so that the same could be and was made from the suggestions, then the plaintiff could not recover. The court refused so to charge, otherwise than it had charged, and the defendants' counsel excepted.

The defendants' counsel also requested the court to charge the jury that, if they should find that the plaintiff received pay for one or more

machines with a seat in the same position as that patented, more than two years before the application for a patent, then he could not recover. The court refused so to charge, and the defendants' counsel excepted.

The counsel for the defendants also requested the court to charge the jury that the patent contained no description of any manner of raking, other than that of sitting on a seat. The court refused so to chage, and the defendants' counsel excepted.

And inasmuch as the said several matters, so excepted to on the part of the defendants, and the said exceptions so taken by them, do not appear by the record of the verdict aforesaid, the counsel for the defendants did then and there propose their aforesaid exceptions to the opinion of the said justice, and requested him to put his seal to this bill of exceptions, containing the said several matters and exceptions; and thereupon the said justice, at the request of the said counsel for the defendants, did put his seal to this bill of exceptions on the thirtieth day of October, 1851.

SAMUEL NELSON, [L. S.]

A.

COUNTY OF WASHINGTON,
District of Columbia, ss.

On this 31st day of March, 1847, before the subscriber, a justice of the peace for said county, personally appeared the within named Cyrus H. McCormick, and made solemn oath that he verily believes himself to be the original and first inventor of the herein described improvement in reaping machines, and that he *do* not know or believe that the same was ever before used or known, and that he is a citizen of the United States.

J. W. THAYER, *J. P.*

TO THE COMMISSIONER OF PATENTS.

The petition of Cyrus H. McCormick, of Steele's Tavern, in the county of Rockbridge, and State of Virginia, respectfully represents, that your petitioner has invented new and useful improvements in reaping machines, which he verily believes has not been used or known prior to the invention thereof by your petitioner. He therefore prays that letters patent of the United States may be granted to him therefor, vesting in him and his legal representatives the exclusive right to the same, upon the terms and conditions expressed in the act of Congress in that case made and provided, he having paid thirty dollars into the treasury, and complied with other provisions of the said act. And he hereby authorizes C. M. Keller and J. J. Greenough to act as his attorneys in presenting this application, altering and withdrawing the same as the case may require, and to receiving the patent when granted.

C. H. McCORMICK.

To all to whom these presents shall come:

Be it known that I, Cyrus *J.* McCormick, of Steele's Tavern, in the county of Rockbridge, and State of Virginia, have invented new and useful improvements in the reaping machine formerly patented by me, and that the following is a full, clear and exact description of the principle or character which distinguishes them from all other things before known, and of the manner of making, constructing and using the same, reference being had to the accompanying drawings, making part of this specification, in which figure 1 is a perspective view, figure 2 a plan, and figure 3 a side elevation. The same letters indicate like parts in all the figures. The reaping machines heretofore made are defective in the following particulars: The driving wheel is placed forward of the mechanism that operates the vibrating sickle, and so far forward as to leave too much of the weight of the machine back of the driving wheel, and therefore tending to strain the horses as well as the frame of the machine; and the gearing which communicates motion to the crank is placed back of the driving wheel, which is therefore subject to be clogged by sand, dirt, straw, &c.; and in consequence of the relative position of the various parts, the attendant is obliged to walk on the ground, beside the machine, to rake the cut grain from the platform, as it is delivered and laid thereon by the reel. These defects, which have so much retarded the introduction into practical and general use of reaping machines, I have remedied by my improvements, the nature of which consists in placing the driving wheel further back than heretofore, and back of the gearing which communicates motion to the sickle, which is placed in a line back of the axis of the driving wheel, the connexion being formed by means of a lever and connecting rod, thus placing the cog gearing which operates the crank forward of the driving wheel for the purposes described, and also bringing the driving wheel sufficiently far back to balance the frame of the machine with the raker on it, and make room for him to sit or stand on the frame back of the driving wheel, and with his back to the horses, so that from this position, and the placing of the reel farther forward than heretofore, and making it shorter, together with the employment of a wheel board or guide which prevents the grain from passing under the machine or into the gearing, thereby avoiding the necessity of a long reel, he can rake off the grain with a sweep of his rake, (having the free use of his body and arms,) in the curve of which his body is the centre, and thus lay the grain on the ground with the heads outwards, at right angles to the swath, which cannot be done if the raker walks on the ground by the side of the machine, as heretofore, for then the sweep which he makes with his rake, relatively to the motion of the machine, lays the grain on the ground with the heads oblique instead of at right angles with the swath, as with the improved mode. In the accompanying drawings (M) represents a flat beam, (called a finger piece,) to a part of the forward edge of which are secured the fingers, (P,) such as are used in the machine heretofore pa-

tented by me, and under these fingers is arranged the vibrating sickle which receives its vibrating motion in manner to be hereafter described. The finger piece is firmly attached at one end to the two oblique hounds (C) and (D) which run towards each other, and are bolted to the tongue (A), the forward end of which passes through the breast piece (B). The team is harnessed to the tongue, hounds and breast piece in the usual or any desired manner. The axle of the driving wheel (L) has its bearings in the two hounds, so near the back end thereof as just to leave room for the wheel to run clear of the finger piece, and to the outer end of the axle of the driving wheel is attached a beveled master cogwheel (1) which communicates motion to a bevel pinion (1') on the lower end of an inclined arbor, to the upper end of which there is another beveled wheel (F) which communicates motion to the driver pinion (H) on a vertical crank arbor (G) that has a fly-wheel (g) on it, between the crank and pinion. The crank arbor has its bearings in the outside hound and the oblique brace (h), and the inclined arbor has its upper bearing in the oblique brace, and its lower end in a shifting lever (m), by means of which the pinion (1') can be thrown in and out of gear with the master bevel wheel (1) when it is desired to reap or move the machine without reaping. A connecting rod (n) from the crank extends horizontally to the forward end of the lever (o), which turns on a fulcrum pin (p) attached to the inside hound, and thence runs back to form a connexion with the end of the sickle (q) by means of a short connecting rod (r). By this arrangement of parts the gearing is placed forward of the drawing wheel, and motion is communicated from thence to the sickle back of the axis of the driving wheel by the vibrating lever, thus placing the driving and supporting wheel back of the gearing, and far enough to balance the weight of the frame, and the attendant or raker is placed on a seat (J) over one end of the finger piece. This seat is attached to a seat post (N) which rises from the outside hound, and to the oblique brace (h), and it is braced also by the diagonal wheel brace (N), which runs down from the post to the finger bar (M) near to its junction with the inside hound. From this position, as represented in figure 1 of the drawings, the raker can get at the grain back of the wheel, and by a natural sweep of his arms deliver it on to the ground at right angles to the swath, as shown in the figure. To give free scope to the arms of the raker the reel (w) is made shorter than usual at that end, instead of overlapping or extending beyond the range of fingers, and to prevent the grain or straw from passing under the frame or into the gearing which operates the sickle.

There is what I denominate a wheel board (w), that is a curved board, the forward end of which is secured to the inside hound; the forward end is curved to force the grain inwards towards the reel, and then it runs back to the platform (Q) parallel with the plane of motion of the end of the reel. At the other end of the finger bars there is a separator (T) or long finger, which projects beyond the points of the fingers (P) to separate the grain that is to be cut, and to the point and top of this

is attached a metal guide or support (U) which extends back of the sickle to support the grain while being cut. The outer edge of the separator runs out in a curved line to force out the grain that is not to be cut, and effect a perfect separation of it from the cut grain. At this end of the platform there is a board (S) to prevent the cut grain from dropping out on that side, and at the back there is a cloth screen to prevent its dropping out at the rear. The reel (W) has its bearings at the outer end, in the end of a horizontal beam, (V,) which is attached to the frame that supports the back screen, and further supported by braces, so as to avoid the use of a standard at that end, as heretofore, against which the grain strikes before it is separated. And the inner end of the reel has its bearing in a sliding box, in a standard (I) attached to the outside hound and the diagonal brace, (h,) the sliding box having a tapped stem running up above the standard with a screw nut, (X,) by means of which may with convenience be tightened the belt that runs from the driving pulley, (xl,) (on the axle of the driving wheel,) over the pulley (y) on the axle of the reel. What I claim as my invention, and desire to secure by letters patent, as improvements on the reaping machines secured to me by letters patent, bearing date the 21st of June, 1834, and the 31st of January, 1845, is placing the gearing and crank forward of the driving wheel for protection from dirt, &c., and thus carrying the driving wheel further back than heretofore, and sufficiently so to balance the rear part of the frame and the raker thereon, when this position of the parts is combined with the sickle back of the axis of motion of the driving wheel, by means of the vibrating lever, substantially as herein described. And I also claim, as my invention, the arrangement of the seat of the raker over the end of the finger piece, which projects beyond the range of fingers, and just back of the driving wheel, as described, in combination with and placed at the end of the reel, whereby the raker can sit with his back towards the team, and thus have free access to the cut grain laid on the platform and back of the reel, and rake it from thence on to the ground by a natural sweep of his body, and lay it in a range at right angles with the swath, as described, thereby avoiding unevenness and scattering in the discharge of the wheat, as well as accomplishing the same with a great saving of labor.

C. H. McCORMICK.

Witnesses—A. P. BROWNE,
J. W. THAYER.

B.

No. 5335.

The United States of America, to all to whom these letters patent shall come:

Whereas Cyrus H. McCormick, Steele's Tavern, Virginia, has alleged that he has invented a new and useful improvement in reaping

machines, which he states has not been known or used before his application; has made oath that he is a citizen of the United States, that he does verily believe that he is the original and first inventor or discoverer of the said improvements, and that the same hath not to the best of his knowledge and belief been previously known or used; has paid into the Treasury of the United States the sum of thirty dollars, and presented a petition to the Commissioner of Patents, signifying a desire of obtaining an exclusive property in the said improvement, and praying that a patent may be granted for that purpose:

These are therefore to grant, according to law, to the said Cyrus H. McCormick, his heirs, administrators, or assigns, for the term of fourteen years from the 23d day of October, one thousand eight hundred and forty-seven, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said improvement, a description whereof is given in the words of the said Cyrus H. McCormick in the schedule hereunto annexed, and is made part of these presents.

In testimony whereof I have caused these letters to be made patent, and the seal of the Patent Office has been hereunto affixed.

Given under my hand at the city of Washington this 23d day of October, in the year of our Lord 1847, and of the independence of the United States of America the 72d.

[L. S.]

JAMES BUCHANAN, *Secretary of State.*

Countersigned and sealed with the seal of the Patent Office.

EDMUND BURKE,
Commissioner of Patents.

The schedule referred to in these letters patent, and making part of the same.

To all to whom these presents shall come:

Be it known that I, Cyrus H. McCormick, of Steele's Tavern, in the county of Rockbridge, and State of Virginia, have invented new and useful improvements in the reaping machine formerly patented by me, and that the following is a full, clear, and exact description of the principle or character which distinguishes them from all other things before known, and of the manner of making, constructing, and using the same; reference being had to the accompanying drawings, making part of this specification, in which figure 1 is a perspective view, figure 2 a plan, and figure 3 a side elevation. The same letters indicate like parts in all the figures.

The reaping machines heretofore made are defective in the following particulars: The driving wheel is placed forward of the mechanism that operates the vibrating sickle, and so far forward as to leave too much *much* of the weight of the machine back of the driving wheel, and therefore tending to strain the horses as well as the frame of the machine. And the gearing, which communicates motion to the crank, is placed back of the driving wheel, which is, therefore, subject to be

clogged by sand, dirt, straw, &c., and, in consequence of the relative position of the various parts, the attendant is obliged to walk on the ground by the side of the machine to rake the cut grain from the platform, as it is delivered and laid thereon by the reel. These defects, which have so much retarded the introduction into practical and general use of reaping machines, I have remedied by my improvements; the nature of which consists in placing the driving wheel further back than heretofore, and back of the gearing which communicates motion to the sickle, which is placed in a line back of the axis of the driving wheel, the connection being formed by means of a lever and connecting rod, thus placing the cog gearing which operates the crank, forward of the driving wheel, for the purposes described, and also bringing the driving wheel sufficiently far back to balance the frame of the machine with the raker on it, and make room for him to sit or stand on the frame, back of the driving wheel, and with his back to the horses, so that from this position, and the placing of the reel further forward than heretofore, and making it shorter, together with the employment of a wheel-board or guide, which prevents the grain from passing under the machine, or into the gearing, thereby avoiding the necessity of a long reel, he can rake off the grain with a sweep of his rake (having the free use of his body and arms) in a curve of which his body is the centre, and thus leave the grain on the ground, with the heads outwards, at right angles to the swath, which cannot be done if the raker walks on the ground by the side of the machine as heretofore, for then the sweep which he makes with his rake, relatively to the motion of the machine, lays the grain on the ground with the heads oblique, instead of at right angles with the swath, as with the improved mode.

In the accompanying drawings (M) represents a flat beam, (called the finger piece,) to a part of the forward edge of which are secured the fingers, (P,) such as are used in the machine heretofore patented by me, and under these fingers is arranged the vibrating sickle, which receives its vibrating motion in manner to be hereafter described. The finger piece is firmly attached at one end to the two oblique hounds, (C) and (D,) which run towards each other and are bolted to the tongue, (A,) the forward end of which passes through the breast piece, (B.) The team is harnessed to the tongue, hounds, and breast piece, in the usual or any desired manner. The axle of the driving wheel (L) has its bearings in the two hounds, so near the back end thereof as just to leave room for the wheel to run clear of the finger piece; and to the outer end of the axle of the driving wheel is attached a beveled master cog wheel, (l,) which communicates motion to a beveled pinion (l 1) on the lower end of an inclined arbor, to the upper end of which there is another beveled wheel, (F,) which communicates motion to the driver pinion (H) on a vertical crank arbor (G) that has a fly-wheel (g) on it, between the crank and pinion. The crank arbor has its bearings in the outside hound and the oblique brace, (h,) and the inclined arbor has its upper bearing in the oblique brace, and its lower end in a shift-

ing lever, (m,) by means of which the pinion (l l) can be thrown in and out of gear with the master bevel wheel, (l.) When it is desired to reap, or move the machine without reaping, a connecting rod (n) from the crank extends horizontally to the forward end of a lever, (o,) which turns on a fulcrum pin (p) attached to the inside hound, and thence runs back to form a connection with the end of the sickle, (q,) by means of a short connecting rod, (r.) By this arrangement of parts the gearing is placed forward of the driving wheel, and motion is communicated from thence to the sickle back of the axis of the driving wheel, by the vibrating lever, thus placing the driving and supporting wheel back of the gearing, and far enough to balance the weight of the frame; and the attendant or raker is placed on a seat (J) over one end of the finger piece. This seat is attached to a seat post (N) which rises from the outside hound, and to the oblique brace, (h,) and it is braced also by the diagonal wheel brace, (N,) which runs down from the post to the finger bar, (M,) near to its junction with the inside hound. From this position, as represented in figure 1 of the drawings, the raker can get at the grain back of the wheel, and, by a natural sweep of his arms, deliver it on to the ground, at right angles to the swath, as shown in the figures. To give free scope to the arms of the raker, the reel (W) is made shorter than usual at that end, instead of overlapping or extending beyond the range of fingers; and to prevent the grain or straw from passing under the frame, or into the gearing which operates the sickle, there is what I denominate a wheel-board, (w,) that is, a curved board, the forward end of which is secured to the inside hound; the forward end is curved to force the grain inwards towards the reel, and then it runs back to the platform, (Q,) parallel with the plane of motion of the end of the reel. At the other end of the finger bar there is a separator, (T,) or long finger, which projects beyond the points of the fingers, (P,) to separate the grain that is to be cut; and to the points and top of this is attached a metal guide or support, (V,) which extends back of the sickle to support the grain while being cut. The outer edge of the separator runs out in a curved line, to force out the grain that is not to be cut, and effect a perfect separation of it from the cut grain. At this end of the platform there is a board (s) to prevent the cut grain from dropping out on that side, and at the back there is a cloth screen to prevent its dropping out at the rear. The reel (W) has its bearings at the outer end, in the end of a horizontal beam, (V,) which is attached to the frame that supports the back screen, and further supported by braces, so as to avoid the use of a standard at that end, as heretofore, against which the grain strikes before it is separated. And the inner end of the reel has its bearings in a sliding box, in a standard (I) attached to the outside hound and the diagonal brace, (h,) the sliding box having a tapped stem running up above the standard, with a screw nut, (X,) by means of which may with convenience be tightened the belt that runs from the driving pulley, (x1,) (on the axle of the driving wheel,) over the pulley (y) on the axle of the reel.

What I claim as my invention, and desire to secure by letters patent,

as improvements on the reaping machine secured to me by letters patent, bearing date the 21st of June, 1834, and the 31st of January, 1845, is placing the gearing and crank forward of the driving wheel, for protection from dirt, &c., and thus carrying the driving wheel further back than heretofore, and sufficiently so to balance the rear part of the frame and the raker thereon, when this position of the parts is combined with the sickle back of the axis of motion of the driving wheel, by means of the vibrating lever, substantially as herein described. And I also claim, as my invention, the arrangement of the seat of the raker over the end of the finger piece, which projects beyond the range of fingers, and just back of the driving wheel, as described, in combination with and placed at the end of the reel, whereby the raker can sit with his back towards the team, and thus have free access to the cut grain laid on the platform and back of the reel, and rake it from thence on to the ground by a natural sweep of his body, and lay it in a range at right angles with the swath, as described, thereby avoiding unevenness and scattering in the discharge of the wheat, as well as accomplishing the same with a great saving of labor.

C. H. McCORMICK.

Witnesses—A. T. Browne,
J. W. Thayer.

C.

In the circuit court of the United States, for the northern district of New York.

Cyrus H. McCormick
vs.
William H. Seymour and Dayton S. Morgan. } In equity.

Account of sales of Seymour & Morgan's reapers, rendered in pursuance of the order of this court, made in the above entitled cause:

The number of machines manufactured by the defendants up to the present time is three hundred.

Of the above there have been sold and delivered, as near as these defendants can state, two hundred and forty machines, in the States of Illinois, Wisconsin, and Michigan, at one hundred and twenty dollars each; a small part of which has been paid in cash, and the balance generally secured by notes, payable at various times thereafter. And there have been sold in the State of New York thirty-nine machines, at one hundred and five dollars each, except that eleven of them were sold for cash at one hundred dollars each, and three or four others at a few dollars less.

The remaining twenty or twenty-one machines are nearly all in the hands of agents in the western States for sale, and some part of them

may have been sold, but these defendants have no information with regard to such sales.

Dated Brockport, August 20th, 1850.

SEYMOUR & MORGAN.

NORTHERN DISTRICT OF NEW YORK,
Monroe county, ss.

Dayton S. Morgan, one of the defendants in the above entitled cause, being duly sworn, says, that he has charge of the books of the firm of Seymour & Morgan, and keeps the accounts thereof, so far as relates to their furnace and machine business, and the manufacture and sale of reapers, and that the above statement is a correct account of the sale of reapers by them during the present year, so far as he is able to give such account; the information in regard to such sales being derived chiefly from the agents of defendants, engaged in selling and delivering such machines in the western States; and further this deponent says not.

DAYTON S. MORGAN.

Sworn this 21st day of August, 1850, before me,

JOHN T. LACY,
Clerk of Monroe county.

D.

Louis de V. Wilder, being first duly sworn and cautioned to tell the truth, the whole truth, and nothing but the truth, deposes and says as follows, viz: I reside in Geneva, New York; in 1849 I resided in Brockport, New York. I know the parties to this suit; in October, 1849, I heard a conversation between the plaintiff and the defendant, Seymour, in front of Seymour's store at Brockport; the plaintiff had just returned from the west, and I met him in front of Seymour's store in the evening. While we were in conversation Mr. Seymour came out of his store and came up to us. Soon the matter of the reaper came up; the substance of what was said at that time between the parties was, that Mr. McCormick remarked that Mr. Seymour was infringing on his patent, and the important part was the seat and the reel which he spoke of as being infringed upon; that he considered he was infringing on his patent; he said to Mr. Seymour, if he went on manufacturing reapers that he would prosecute him, because he said he considered it an infringement on his patent. I do not know whether the defendants then had commenced manufacturing reapers. I was in their shop and furnace a number of times after that the following winter, and at one time saw a driving wheel they were manufacturing, which Mr. Seymour said was for the reaper. I saw them getting out the frame work for the reaper.

Cross examined by defendants' counsel.

When Mr. McCormick said to Mr. Seymour he was infringing, his

answer was, as near as I recollect, that he thought not; that he was not infringing on his patent. I am quite sure it was the seat, and not the sickle, that Mr. McCormick complained of; it could not be over two or three months after that that I saw the defendants manufacturing, as I have stated.

Re examined by plaintiff's counsel.

My best recollection is, indeed I am sure, that, the summer previous to the conversation in October, I saw a reaper leaving the defendants' shop, for the purpose of being tried.

LOUIS DE V. WILDER.

E.

William H. Beach, being first duly sworn and cautioned to tell the truth, the whole truth, and nothing but the truth, deposes and says as follows, viz: In December, 1850, I was foreman in the office of the Monroe Democrat, a newspaper published in the city of Rochester. I know Messrs. Seymour & Morgan, of Brockport; one of them, Mr. Morgan, is present in the room, (pointing to him.) (Shown a number of Monroe Democrat, bearing date 19th December, 1850, and shown an article in said paper signed Seymour & Morgan.) I think Mr. Morgan brought the article in manuscript for publication, I mean Mr. Morgan here present; up to that time I had not seen Mr. Seymour. He said he wished it published two or three times; I think it was three times he wished it published; he said, in reference to the pay for the article, "draw on us for the pay;" it was paid for, at least Seymour & Morgan are credited for the amount on the books of the establishment. The article was published once in the daily and twice in the weekly paper; the daily is called the Daily Democrat, and the other the Monroe Democrat, both published in same office. The weekly paper is made up from the matter contained for the preceding six days in the daily; the daily circulates in the city and country; the circulation of the daily in the country is about 900 daily, and about 1200 in the city; there are five thousand of the weekly circulated, about 250 of which is circulated in the city, and the rest in the country. (The article is here made an exhibit, with the newspaper, and is marked exhibit A.) The manuscript was signed Seymour & Morgan, in the same manner as appears in the article; both the Daily and Monroe Democrat go into the surrounding and neighboring counties.

WILLIAM H. BEACH.

Exhibit A, referred to in the deposition of William H. Beach.

New York reaper.—To farmers.

Our attention has been directed to an article published in some of the papers, by C. H. McCormick, which is only a stereotyped edition of the humbug with which he has before tried to gull the farming com-

munity. We should suppose that, if experience had been worth anything to this disinterested manufacturer of Virginia reapers and humbugging advertisements, he would have learned that, if he cannot make a machine to compete with ours upon its real merits, he can never force a purchaser to buy or use his inferior article by boasting or threats. This C. H. McCormick, in all his publications, conceals the real point at issue between him and us. The reason undoubtedly is, he is ashamed to show how small a matter he is endeavoring to magnify into one of great importance. Any person may see, by reference to the publications paraded so extensively by McCormick, that the only infringement with which we are charged is on the improvements described in letters patent of October 23, 1847; and we propose to show the foundation of this charge by the following copy of his claim, which is all that has any reference to the suit between us:

Copy of the claim.

"What I claim as my invention, and desire to secure by letters patent, as improvements on the reaping machine secured to me by letters patent, bearing date the 21st June, 1834, and the *the* 31st of January, 1845, is placing the gearing and crank forward of the driving wheel, for protection from dirt, &c., and thus carrying the driving wheel farther back than heretofore, and sufficiently so to balance the rear part of the frame and the raker thereon, when this position of the parts is combined with the sickle back of the axis of motion of the driving wheel, by means of the vibrating lever, substantially as herein described.

"And I also claim, as my invention, the arrangement of the seat of the raker over the end of the finger piece, which projects beyond the range of fingers and just back of the driving wheel, as described, in combination with and placed at the end of the reel, whereby the raker can sit with his back towards the team, and thus have free access to the cut grain laid on the platform and back of the reel, and rake it from thence on to the ground by a natural sweep of his body, and lay it in a range at right angles with the swath, as described; thereby avoiding unevenness and scattering in the discharge of the wheat, as well as accomplishing the same with a great saving of labor."

Now let any individual examine both machines, in connexion with the above claim, and see if he can find a shadow of an infringement on our part. We have never yet met the disinterested man who has taken this course, and has not at once come to the conclusion that the charge of McCormick was a humbug of the silliest kind. He made an application for an injunction last summer, as he supposed just in time to keep our machines out of market; but, with the merits of the question fully argued, his motion was denied.

The following are the reasons why the suit commenced by McCormick against us was not tried at the last circuit held at Albany in October: The issue in the cause was joined less than thirty days before the commencement of the circuit. It was necessary for us to have the testimony of witnesses residing in Ohio, Indiana, Michigan, and Illi-

3207.

nois, and measures were taken at the earliest moment to procure their depositions, but the time was so short that only a single deposition had been returned when the cause was called; we were, therefore, compelled to have the trial put off to the next circuit.

The court ordered an injunction to be issued, restraining us from manufacturing in the mean time such machines as we had manufactured the previous season. It is the practice of the court, where a defendant asks the postponement of a trial under such circumstances, to grant an injunction as a matter of course, if it be asked for, and without any reference to the merits of the controversy. According to this practice the injunction was ordered here, without a word said by the court or counsel as to the merits of the controversy; by the same judge, who, in August previous, had, after a full investigation of the whole matter, denied it. Besides, the affidavits on which the application to postpone the trial was made, showed that we did not intend to manufacture any more machines of that kind; and it was, therefore, obvious that an injunction was a mere matter of form, doing no good, and producing no harm to any one.

We need no better recommendation for our machines than the fact, that while McCormick is warning the public against buying our inferior machines, calling it a "total failure," &c., &c., he is at the same time appealing to the highest court in our land to protect him from our competition; a great display of consistency, truly. We last year received more orders for our machines than we could supply, and they gave universal satisfaction.

To expose all the falsity of McCormick's article would take more time than we care about devoting to so mean a business; but we must allude to the point where he claims that the manufacturers, buyers, and sellers are all equally liable for an infringement, as some persons may perhaps be misled by it. Now, we say that he can recover damages from only one party, and if he should succeed in beating and recovering from us, that ends all liability on the part of any one; and as we intend to see this matter through, no person need have the least fear in regard to the result; if we should get beat, we have ample means to pay all damages; but we have more ample means to beat Mr. McCormick in a way that will settle all his claims, either to improvements or original patents, and when he gets through with us we will guaranty that he will be glad to let others alone, and have less to say about "pirating on inventions."

We are now manufacturing several hundred of the New York reapers for the harvest of 1851; and by the application of new principles lately patented, and to which we have the exclusive right, we are prepared to offer to the farmers of the United States and Canada a perfect reaping machine, which in durability of construction, perfect manner of cutting grain, and the ease with which it may be worked, has never been equalled. The following are some of the advantages proposed by this machine over any other heretofore used:

1st. The finger-piece is placed within the circumference of the driv-

ing wheel, and the other ground wheel placed nearly opposite and greatly increased in size, which lessens the power necessary to work the machine at least one third, and does away with all the difficulty of backing and turning.

2d. The method of changing the cut is so improved that it can be done instantly on the small ground wheel by means of a lever, and on the driving wheel in much less time than in any other reaper.

3d. The sickle or knife is constructed of patent hollow teeth, which cannot be clogged, and which, in case of accident, can be repaired by any good blacksmith without the least difficulty.

4th. The raker is placed on the back side of the platform, where he has his work directly before him, and is capable of performing it in a perfectly natural and easy manner, when compared with the old way of stretching from behind the gearing with his back towards the team.

5th. The gearing is of new and improved construction, combining great strength and durability with perfect simplicity of arrangement, and possesses great advantages in many respects over all similar machines.

We are now prepared to receive orders for the above machines. Our terms of sale, warranty, &c., will be as favorable as ever, and we shall spare no pains to make our work satisfactory, as we are bound to keep ahead of all others in the quality of our machines. We wish the inhabitants of Austria and South America to understand that we cannot do any thing towards supplying them, until some one shall get up a machine that will drive us out of the North American market; for the present we can sell all we can make at home. In regard to any statements of Mr. McCormick, it is only necessary to know the man, and his connection with the business to know the motive which prompts him. We shall be happy to give further information to any who may address us personally or by mail.

SEYMOUR & MORGAN.

Brockport, Monroe Co., N. Y., Dec. 1st, 1850.

F.

Seymour & Morgan's improved reaping machine, manufactured at Brockport, Monroe county, N. Y.

The subscribers are preparing to offer the farmers a superior reaping machine. Having for years been engaged in manufacturing a large number of McCormick's reapers, they are confident that the reaper which they are now manufacturing is far superior in every respect to any other now in use. It was thoroughly tested in the harvest fields last year, and gave entire satisfaction to all who witnessed its operation. It surpasses any machine now before the public in many important points; the cutter or sickle being in sections, in case of accident can be repaired by a good blacksmith, without the owner being obliged to go to the manufacturers for a new blade. The ground wheel is 3 feet in diameter, and all the gearing runs in iron boxes. An early order is

important from those wishing to purchase a machine, as we have already contracted for the sale of 300 for the west. In all cases a liberal warrant is given to the purchaser. The improved reaper was constructed under the supervision of our foreman, Mr. Geo. F. Burnet, who has been engaged three years for us in the business.

SEYMOUR & MORGAN.

Brockport, Dec. 25th, 1849.

Certificates.

SWEDEN, *Nov.* 12*th*, 1849.

Messrs. SEYMOUR, MORGAN & Co.: In my harvest last season I used one of your improved grain reapers. I had formerly used one of McCormick's improved Virginia reapers. I have had considerable knowledge of them. In comparison I think yours decidedly preferable; firstly, in point of perfection in cutting, which is the great desideratum, it is far in advance of his; and next, in ease of operation I think it has decided advantages. I did not obtain your reaper until a large part of my harvest was completed; consequently I had not an opportunity to test the amount that could be cut in a day; still I am satisfied that it is capable of cutting from 15 to 25 acres per day, and that too in the most perfect manner. I used no change of team. I did not find it necessary in doing an ordinary day's work, about 15 acres per day. I tested your machine in wet grain and when there was grass at the bottom; here I found it had a great advantage over other reapers in use, it being able to go through almost any grain, some badly lodged, without any apparent difficulty of clogging the knife; and from my experience I think it a valuable labor-saving machine, and would cheerfully recommend it to the attention of farmers, as I think grain can be cut with it, all expenses counted, at half the cost of cutting it in the ordinary way. Wheat can be bound and shocked in a better manner and with less labor, besides a great saving in the waste of grain.

Yours, &c., F. P. ROOT.

I saw the aforesaid Seymour & Morgan's improved reaper in F. P. Root's harvest field, and do concur in the foregoing statement.

WM. ROOT, esq.,
D. H. ROOT.

I have seen the machine work in very heavy and also in wet wheat, where it performed well, and believe it to be an improvement upon McCormick's reaper. There was no clogging as in the case of McCormick's, and it must be a good machine if well made.

NATHAN LOCKE.

BROCKPORT, *Nov.* 13*th*, 1849.

Messrs. SEYMOUR & MORGAN—GENTS: I used one of *our* improved reapers in my harvest, which worked better than any I have seen before used, cutting wheat when there is much grass without choking, which

other machines which I have used would not do. I have had much experience with reapers, having purchased the first one of McCormick's brought to this State. I have since put a large number of McCormick's in operation at the west, and believe yours to be the most perfect reaper now in use.

A. CHAPPELL.

I used one of Messrs. Seymour and Morgan's reapers last harvest, and cheerfully recommend it to farmers as the best machine within my knowledge for cutting grain.

GEO. H. ALLEN.

BROCKPORT, *November 13th*, 1849.

This may certify that I used, in my harvest of 1849, Seymour and Morgan's improved reaper, which worked to my entire satisfaction; cutting grain in all conditions. I believe it cannot be clogged in either grassy or green wheat. I have witnessed the operation of other reapers now in common use, and I believe it to be superior to any that I have seen; cutting wet or grassy wheat when other reapers cannot.

F. W. BREWSTER.

BROCKPORT, *November 12th*, 1849.

We have seen the trial of Seymour and Morgan's improved reaper, in the harvest of F. W. Brewster, and having witnessed the operation of other reapers, we believe this the most perfect machine now in use.

J. A. HOLMES, ALLEC POTTER,
D. A WHITE, W. THEO. DOWNS,
MORGAN RANDLE, O. A. ROYCE.

G.

Albert P. Dickey, one of the witnesses of said plaintiff, being present, and having been by me carefully examined and cautioned, and duly sworn to testify the whole truth and nothing but the truth, saith, and in answer to the interrogatories propounded to him, deposeth as follows:

1st interrogatory propounded by James H. Collins, counsel for the plaintiff. What is your age and occupation, and where do you reside?

Answer. My age is 32, my occupation is mechanic, fanning mill manufacturer. I am also agent for the sale of several agricultural machines in the State of Wisconsin, and reside at Racine, in said State of Wisconsin.

2d interrogatory by same. Do you know the parties to this suit, plaintiff and defendants, or either, and which of them? If so, how long have you known them?

Answer. I am well acquainted with Cyrus H. McCormick, the plaintiff, and have known him two years and upwards. I am partially acquainted with William H. Seymour, one of the defendants, and have

known him about a year and perhaps a little over. I do not know Mr. Morgan personally.

3d interrogatory by same. Are you acquainted with the reaping machine called "McCormick's Virginia reaper?" If yea, how long have you known it, and where, and state whether you have been agent for the sale of said machine; and if so, how long and where?

Answer. I am well acquainted with it. I have known it for four years past; firstly in Illinois, and the three years past in the State of Wisconsin. I have been agent for the same machine for the two past years in the State of Wisconsin, and have had the entire agency for the State of Wisconsin for that length of time.

4th interrogatory by same. Are you acquainted with a machine called "Seymour and Morgan's improved reaping machine?" If yea, how long have you known it, and where?

Answer. I am acquainted with it. I have known it from the first of July last, up to this time, in the State of Wisconsin.

5th interrogatory by same. Do you know one S. G. Williams? If yea, how long have you known him, and where does he reside, and do you know whether he has acted as the agent of the defendants for the sale of said defendants' reaping machine, and how long?

Answer. I do; am well acquainted with him, for one year past he resided at Janesville, Rock county, Wisconsin. I know that he has acted as the general agent for the sale of Seymour and Morgan's reaping machine for the State of Wisconsin, for the past year.

6th interrogatory by same. Have you had any conversation with William H. Seymour, one of the defendants, in regard to the agency of said Williams for the sale of said defendants' reaping machines? If yea, what did he say, if anything, in relation to the agency of said Williams?

Answer. I think I have had a conversation with Mr. Seymour at Racine; that he told me that Mr. S. G. Williams was his general agent for the western States, for the defendants' reaping machines.

7th interrogatory by same. Do you know whether said Williams in the performance of his said agency interfered in any way with the sales of said McCormick's patent Virginia reaper? If yea, describe the manner of said interference, and state all the facts and circumstances in relation thereto, as far as you can remember.

Answer. S. G. Williams did interfere with the sale of McCormick's Virginia reaper very much, by publishing in the Janesville Gazette the annexed notice, marked exhibit (A,) and also by circulating the same in handbills about the State; also by publishing in said gazette the annexed notice, marked as exhibit (B.)

8th interrogatory by same. Do you know, and can you state about how many of McCormick's reapers you were prevented from making sale of by the acts and representations of said Williams? If yea, how many?

Answer. I think, from the best of my knowledge, I was hindered in the sale of from 100 to 120 of McCormick's reapers. Last year I sold

200, this year only 100 of McCormick's machines; and I have labored four times as hard, and expended more money to make the sale of the 100 than the 200.

10th interrogatory by same. Are you acquainted with machinery of this description, and do you know the principles of the two machines, McCormick's and Seymour and Morgan's? If so, please state what difference there is, if any, between the two, wherein they agree and wherein they differ.

Answer. I am well acquainted with machinery of this kind, having been for the past two years in the practical use of them, and having been a manufacturer of machines for the past sixteen years. I think I am well acquainted with the principles of the two reaping machines spoken of. I consider the principles of the two machines the same, with a slight variation in the sickle; the cutting of McCormick's reaper is done by a straight reverted sickle-edged instrument; Seymour and Morgan's is done by a reverted sickle-edged instrument made in sectional scallops, riveted upon an iron bar which operates the same as McCormick's. The separating the wheat that is cut from that which is not cut, in McCormick's machine, is done by a board and an iron which throws the grain on to the reaper when cut. Seymour and Morgan's is done by a board which separates the grain and throws the grain upon the reaper when cut, the same as McCormick's board and iron does. The position of the raker to take or deliver the grain from the machine is the same in each machine, only that Seymour and Morgan have a different seat to sit upon, but the same in principle, and far inferior in point of ease and usefulness to the raker. The raker when in a standing position will find it much harder to discharge the grain from Seymour and Morgan's than from McCormick's reaper. The gearing of the two machines being somewhat different, I should consider McCormick's far preferable; less liable to get out of order, more durable and of easier draft. There is a little more machinery in Seymour and Morgan's gearing, but the operation and result is the same as in McCormick's.

11th interrogatory by same. Which is the most useful and valuable machine?

Answer. I consider McCormick's the most useful and valuable machine.

12th interrogatory by same. What were McCormick's machines sold at?

Answer. A hundred and twenty dollars on time, and a hundred and fifteen dollars cash on delivery.

ALBERT P. DICKEY.

Cross examination.

3d cross interrogatory by counsel for defendants. What did you do towards manufacturing any such machines for 16 years as stated by you?

Answer. I did nothing towards manufacturing reapers, but worked at fanning mills, and carried on the business of making thrashing machines; my business has been with the farmers for the last 16 years.

3204.

4th cross interrogatory by same. What parts of the fanning mill and thrashing machines did you work at?

Answer. I have had the supervision, and carried on the business. I have worked at all parts, and made all parts of fanning mills. I have served a regular apprenticeship at it with George W. Patterson.

ALBERT P. DICKEY.

(*Exhibit A, referred to by witness, Albert P. Dickey.*)

Seymour and Morgan's improved reaping machine, manufactured at Brockport, Monroe county, New York.

The subscribers are preparing to offer to the farmers a superior reaping machine. Having for years been engaged in manufacturing a large number of McCormick's reapers, they are confident that the reaper which they are now manufacturing is far superior, in every respect, to any other now in use. Their improved reaper was constructed under the supervision of the foreman, Mr. George F. Barnet, who has been engaged three years for us in the business. It was thoroughly tested in the harvest fields last year, and gave entire satisfaction to all who witnessed its operation. It surpasses any machine now before the public in many important points. The cutter or sickle being in sections, in case of accident, can be repaired by a good blacksmith, without the owner being obliged to go to the manufacturer for a new blade. The ground wheel is three feet in diameter, and all the gearing runs in iron boxes. We have commenced the manufacture of 500 for the next harvest, and Mr. S. G. Williams is our general agent for selling reapers out of this State, and is fully authorized to sell, collect, and do all business relating to the same.

SEYMOUR & MORGAN.

Brockport, November 13th, 1849.

Certificates.

SWEDEN, *November 15th,* 1849.

Messrs. SEYMOUR, MORGAN & Co.:

In my last harvest I used one of your improved grain reapers. I had formerly used one of McCormick's improved Virginia reapers. I have had considerable knowledge of them; in comparison, I think yours decidedly preferable. Firstly, in point of perfection in cutting, which is the great desideratum, it is far in advance of his; and next, in ease of operation, I think it has decided advantage. I did not obtain your reaper until a large part of my harvest was completed, consequently I had not an opportunity to test the amount that could be cut in a day, still I am satisfied that it is capable of cutting from 15 to 25 acres per day, and that too in the most perfect manner. I used no change of team. I did not find it necessary in doing an ordinary days' work, about 15 acres per day. I tested your machine in wet grain,

and where there was grass at the bottom; here I found it had a great advantage over other reapers in use, it being able to go through almost any grain, some badly lodged, without any apparent difficulty or clogging the knife; and from my experience I think it a valuable labor-saving machine, and would cheerfully recommend it to the attention of farmers, as I think grain can be cut with it, all expenses counted, at half the cost of cutting it the ordinary way. Wheat can be bound and shocked in a better manner, and with less labor, besides a great saving in the waste of grain.

Yours, &c., F. P. ROOT.

BROCKPORT, *November 13th*, 1849.

Messrs. SEYMOUR & MORGAN:

GENTS: I used one of your improved reapers in my last harvest which worked better than any I have seen before used, cutting wheat when there is much grass without choking; which other machines that I have used would not do. I have had much experience with reapers, having purchased the first one of McCormick's brought to this State. I have since put a large number of McCormick's in operation at the west, and believe yours to be the most perfect reaper now in use.

A. CHAPPELL.

I used one of Messrs. Seymour & Morgan's reapers last harvest, and cheerfully recommend it to farmers as the best machine within my knowledge for cutting grain.

GEO. H. ALLEN.

Brockport, November 13th.

This may certify that I used in my harvest of '49 Seymour & Morgan's improved reaper, which worked to my entire satisfaction, cutting grain in all conditions. I believe it cannot be clogged in either grassy or green wheat. I have witnessed the operation of other reapers now in use, and I believe it to be superior to any that I have seen cutting wet or grassy wheat, when other reapers cannot.

F. W. BREWSTER.

Brockport, November 12th, 1849.

We have seen the trial of Seymour & Morgan's improved reaper in the harvest of F. W. Brewster, and having witnessed the operation of other reapers, we believe this the most perfect machine now in use.

J. A. HOLMES,
D. A. WHITE,
MORGAN RANDLE,
ALLEN POTTER,
W. T. DOWNS,
O. A. ROYCE.

3204

BROCKPORT, *January 25th*, 1850.

MESSRS. EDITORS: Our attention has been called to a notice in your paper headed "Caution," informing the farmers that he, the subscriber, is authorized to sue all who sell or purchase Seymour & Morgan's reaper, as an infringement on McCormick's patent Virginia reaper, and signed—

A. P. DICKEY, *Agent.*

The object of the caution is evidently intended to create the impression that our reaper really infringes on McCormick's right, and thereby hinder and prevent our selling and introducing a much better reaper in all respects. We have built and sold over four hundred (400) of McCormick's, and have given ours a thorough trial, and therefore we feel prepared to decide on the merits of them, and have no doubt but that the farmers will all sustain us in our opinion, after giving our reaper a trial. Our reaper does not infringe on McCormick's rights in any particular, but we do expect to infringe some on his sales, and believe the farmers will not object if they get a better reaper and made workmanlike. We will be prepared to attend to McCormick should he venture to sue, and guaranty all who purchase our reaper from any liability to McCormick.

SEYMOUR & MORGAN.

The undersigned, agent for the sale of the above-mentioned reapers, being informed that several persons are traveling in this State and telling the farmers that if they buy Seymour and Morgan's reaper they will be sued, &c.:

Now, therefore, I hereby give such persons notice that I am authorized to sue all such persons who, by their stories, make themselves personally liable for damages by preventing the sale of S. & M.'s reaper. Sell McCormick's if you can, gentlemen, on its own merits, and let S. & M.'s reaper stand upon its own merits. That is all they ask or can receive; there is room for all. To the farmers the undersigned would say, that he will be happy to take their orders for Seymour and Morgan's reapers, on as good terms as to warranty, price, terms of payment, &c., as any other reapers are offered. When at home he can be found at or near E. L. Roberts' clothing store, west side the river, Janesville, and when absent Mr. Roberts will attend to the business.

S. G. WILLIAMS.

Janesville, February 8th, 1850.

(*Exhibit B, referred to by witness Albert P. Dickey.*)

JANESVILLE, *March 26th*, 1850.

MESSRS. EDITORS: I notice in your paper of March 21st two communications, one signed by A. P. Dickey, and the other by C. H. McCormick & Co., and will say a few words in reference to both.

Although Mr. Dickey may have sold many machines which gave satisfaction, the inference which he draws and asserts to be a fact, "that these machines cannot be beaten by any reaping machine in the United States," is not true, for said machine is, in many respects, already beat by Seymour and Morgan. As to the assertion that "S. & M. have agents traveling through this State offering to sell the farmers reapers which they represent to be McCormick's improved reapers, made by S. & M. at Brockport, N. Y.," so far as I know, is false. I know of no one selling S. & M.'s reapers but myself and such as I have engaged to take orders, and I have not sold, or instructed any one to sell, any such reaper. But we do sell, and intend to continue to sell, Seymour & Morgan's reapers, although it may not be agreeable to or suit the self-interest of some men. Mr. D. says that the reapers made by S. & M. are much inferior to McCormick's. Did he ever see one of S. & M.'s reapers? He never did. I have sold more of McC.'s reapers than he ever did, and have seen S. & M.'s reapers work in the harvest field, and know them to be in every respect equal, and in many respects superior, to McC.'s. As to the more abundant caution, I give all interested particular notice that I do not intend or wish to interfere with, or infringe upon, McC.'s rights in any way, but shall continue to sell S. & M.'s reaper, without asking McC.'s agent's consent.

In reference to McCormick & Co.'s letter, it may be said, that there is no doubt but that McC. may find many lawyers who, looking at one side of the matter, and nothing loth to have a suit, may call his case clear; but there is two sides to all questions, and S. & M. know what they are about, and feel themselves perfectly able to meet Mr. McC. in any shape he wishes to present himself, and are satisfied they can set aside any injunction, or beat him at any suit at law. McC. says "papers are being prepared for the purpose." For what purpose? Perhaps he might have said for the purpose of a renewal of his patent; he may again fail in that.

He says "suit will be also brought at law, but that he shall not push that." Very likely he will not push the matter, and it is believed he dare not begin.

He says, "they will be prevented from sending the reapers forward to purchasers." A great many things "may be stated" by those who do not care what they say in making sales. Do they find themselves so hard pushed in making sales that they are obliged to resort to such stories? Seymour & Morgan's reapers will be sent to purchasers, who will be protected in the right to use the same. Does Mr. McC. say "S. & M.'s reaper is really much inferior to ours?" He is certainly a very impartial judge. Mr. McC. never was east, where S. & M.'s reapers *was* in use in the harvest field, and therefore never saw ours at work, and must be hard pushed to make such statement. The public are referred to the statement of disinterested farmers who have used both reapers, all of whom agree that S. & M.'s reaper is superior to McC.'s. McC. & Co.'s "fears" that the farmers will be taken in, is very kind

on their part, and it is to be hoped may be sincere; but [it] is barely possible that self-interest may have a very little influence in the matter. I am very happy to be able to remove a very great load from their minds by assuring them that S. & M.'s reaper shall be a first-rate machine, fully equal, and probably superior, to any which they are making.

Yours, &c., S. G. WILLIAMS.

H.

Harvey A. Blakesley, having been by me carefully examined and cautioned and sworn, in due form of law, to testify the whole truth, deposeth, maketh oath, and saith: I have been in the employment of C. H McCormick & Co., at the city of Chicago, in the State, since the 8th day of November last, at a salary of one thousand dollars per annum, in the capacity of accountant or book-keeper, at their manufactory of McCormick's Patent Virginia Reapers. Cyrus H. McCormick is one of the firm in whose employ I am and have been. At the above establishment they have manufactured, between the harvest of eighteen hundred and forty-nine and eighteen hundred and fifty, sixteen hundred reapers of the above named patent, most of which have been sold in the States of Illinois, Wisconsin, Iowa, Missouri, and Indiana; as near as I can judge from the orders given for the reapers, and the returns and accounts of the agents, there have been sold at least twelve hundred for the past season. From the prices for which said reapers have been sold, and the cost of manufacture of the same, including a patent fee of thirty dollars on each machine, the profit on each reaper would amount to seventy-four dollars; that is, forty-four dollars profit to the manufacturers, and the patent fee of thirty dollars to Mr. McCormick, the patentee. I arrive at the above estimate thus: The cost of the manufacture of the reapers is thirty-six dollars each; their average prices sold for is one hundred and ten dollars each; after paying charges and commissions of agents, making no deductions for losses in collection, which, from past experience, I should not estimate over two and a half per cent. The establishment used by said C. H. McCormick & Co., in the manufacture of said reapers, is owned by Cyrus H. McCormick, the patentee of said reapers and the plaintiff in said suit, and is worth, as near as I can judge, about forty thousand dollars, including the real estate, buildings, fixtures, and machinery. The capital used by said C. H. McCormick & Co. in carrying on their business is about fifty-five or sixty thousand dollars per annum. I have examined the specifications mentioned in the letters patent granted to Cyrus H. McCormick, dated June 21st, 1834, for his "improvements in the machine for reaping all kinds of small grain." Also the letters patent, with specifications of the same, granted to said Cyrus H. McCormick for "certain new and useful improvements upon my (his) patented reaping machine," bearing date January 31st, 1845, together with the fourth claim made in the same. And also letters patent, with specifications of the same, granted to said Cyrus H.

McCormick for "new and useful improvements in the reaping machine formerly patented by me," (him,) together with the last claim contained in said letters patent, dated October 23d, 1847; and I have carefully compared the above letters patent, and the specifications accompanying them, with the reaping machines manufactured as aforesaid at the establishment of C. H. McCormick & Co., in said city of Chicago, and I have found that said reaping machines correspond with said letters patent, and the several specifications, as modified from time to time, and particularly they are according to and identical with the description contained in said fourth claim in said letters patent of January 31st, 1845, and in the last claim in said letters patent of October 23d, 1847. I know that the machines of said C. H. McCormick & Co. were extensively used in the northwestern States during the harvests of the years 1849 and 1850. Their sales during those two seasons amounted to at least twenty-six hundred reapers. As to previous years' sales, I know nothing except from general report.

HARVEY A. BLAKESLEY.

I.

Orloff M. Dorman appeared before me at my chambers, in the city of Chicago aforesaid, on the 27th day of September, in the year of our Lord one thousand eight hundred and fifty. And the said Orloff M. Dorman having been by me carefully examined, and cautioned and sworn, in due form of law, to testify the whole truth and nothing but the truth, deposeth, maketh oath, and saith: I know Cyrus H. McCormick, of Rockbridge county, State of Virginia, the plaintiff in the above entitled suit. I was a member of the firm of C. H. McCormick & Co., which company was composed of the said Cyrus H. McCormick and myself; the partnership between us commenced on the 26th day of September, A. D. 1849, and was to continue one year from that date, when the partnership expired, except so far as its continuance was necessary to close up the last year's business; I have no interest in the business of the present year. By the partnership the said Cyrus H. McCormick was to have three-fourths of the profits of the business, and I was to have one-fourth of such profits. Said C. H. McCormick & Co. were engaged in the manufacture of McCormick's Patent Virginia reapers or reaping machines, at Chicago, in the State of Illinois. Said company made, for the harvest of one thousand eight hundred and fifty, sixteen hundred of said reaping machines for sale. Having just returned from the east, and not having examined all the returns of sales, I cannot state the precise number of said reaping machines which we have sold; I believe the number sold to be about twelve hundred. In the present state of the business it is impossible for me to state with exactness the actual profits arising from the manufacture of the said reaping machines; several weeks' absence has prevented my making a careful examination of all the accounts; I think the cost of the reaping machines made by the company, including rent for the establishment used by them, will not vary much from thirty-seven

dollars each machine. The price for which we sold the machines in the States of Illinois, Wisconsin, Iowa, and Kentucky, and most of Indiana, was one hundred and twenty dollars; thirty dollars cash, and ninety dollars payable the first of December following; or for one hundred and fifteen dollars cash on delivery of the machine; the purchasers in all these cases paying freight or transportation from the factory. In the State of Illinois we paid some of our agents five dollars each machine for selling it, and collecting the amount therefor; other agents, and this is the largest class, we pay six dollars each machine for doing the same business. One agent we pay seven dollars each machine for doing the same thing; and in one instance in this State we pay eight dollars for each machine, for selling it and collecting the amount due for it; this last sum we paid, because we expected the attempts to sell the machines of Seymour and Morgan, of Brockport, would require greater exertions on our part to effect sales. In Iowa we paid our agents, for selling and collecting the amount, six dollars each machine. In Wisconsin, where we expected the greatest opposition from the agents of said Seymour and Morgan, we paid our agent nine dollars each machine for selling and collecting; the year before the same agent was paid for the same services only six dollars a machine. In the States of Ohio and Missouri, where Mr. McCormick was desirous of bringing his reapers into use, we sold the machines at one hundred and twenty-five dollars each, we paying the transportation on the machines; and we also paid our agents for selling and collecting more than in the State of Illinois. We sold our reapers, deliverable at our cost along the line of the Erie canal, for one hundred and ten dollars each machine; and we paid our agent, for selling and collecting, ten per cent. on all sums collected by him for reapers sold; the freight to Buffalo paid by us, where the machines were shipped direct, varied from one $\frac{75}{100}$ to two dollars each reaper.

Some of the reapers made by C. H. McCormick and Co. were sold in Virginia, Maryland, Delaware, Pennsylvania, and New Jersey. As will be seen from the above statement, the profits realized from the sale of our reaping machines depend very much on the State or place to which they were sent and sold. Nearly all the sales, it is believed more than three quarters of them, were made in the States of Illinois, Wisconsin, Iowa, and Missouri. In the three States first named, I believe the net profits, in our ordinary sales, will exceed the sum of seventy dollars each machine. In this estimate is not included the losses by bad debts and like causes. For the years preceding the formation of our partnership, the losses on business done at Chicago will be exceeding small for the extent of the business; though in the present stage of the company's business it is impossible to make an estimate of such losses with any pretence to accuracy. I believe from the business of former years they will be very small. I believe the net profits on the sales of machines in Wisconsin will be somewhere between sixty-five and seventy-five dollars each machine. In the northwestern States, including Missouri and Kentucky, the company

pay the said Cyrus H. McCormick, the patentee, a patent fee of thirty dollars each machine; the remainder is the manufacturing profit of C. H. McCormick and Co.

On the sales made in the State of New York, I believe the profits, exclusive of the losses from bad debts, &c., which cannot be great, will be from fifty-five to sixty dollars each machine, out of which the company pay the *the* patentee a patent fee of twenty-five dollars each machine. On all the reaping machines sold by said C. H. McCormick and Co., in all the States above named, I believe the net profits, exclusive of some small losses from bad debts and like causes, impossible now accurately to estimate, will exceed sixty dollars each machine.

The establishment occupied by said C. H. McCormick and Co., in the manufacture of said reaping machines, is owned by the said Cyrus H. McCormick, the plaintiff, to whom for said premises the company pays a rent of five thousand dollars per annum. I think the real estate, buildings, and machinery thus rented, would be worth from thirty-five to forty thousand dollars. The capital employed by C. H. McCormick and Co., in the manufacture of said reaping machines during the last year, including all the materials used, has been between fifty and sixty thousand dollars. Some of those materials having been purchased on credit, the actual cash put into the business by us has been less than that sum. I have examined a copy, certified by Thomas Ewbank, commissioner of patents, under the seal of the Patent Office, of the specifications and claim of said Cyrus H. McCormick, in letters patent for "his improvement in the machine for reaping all kinds of small grain," granted him the 21st day of June, A. D. 1834. I have also examined a copy, certified in the same manner, of the letters patent together with the specifications and claim for certain "new and useful improvements on his patented reaping machine," granted to said Cyrus H. McCormick, the 31st day of January, A. D. 1845. I have also examined a copy, certified in the same manner, of letters patent together with the specifications and claim for "new and useful improvements in the reaping machine formerly patented by" him, granted to said Cyrus H. McCormick, the 23d day of October, A. D. 1847; and I have carefully compared the specifications in the letters patent above named, with the reaping machines made by C. H. McCormick and Co., at their factory in Chicago aforesaid, the last year; and I have found that said reaping machines generally correspond with those specifications, though not in conformity to all of them. But the reaping machines manufactured by C. H. McCormick and Co. the last year at their establishment at Chicago aforesaid, do correspond and conform to the fourth claim in said letters patent granted to said Cyrus H. McCormick, the 31st day of January, A. D. 1845; and said reaping machines do in all respects conform and are exactly identical with the last claim contained in the letters patent, granted said Cyrus H. McCormick, the twenty-third day of October, A. D. 1847. I have seen the reaping machine manufactured by said Cyrus H. McCormick, in connexion

with Messrs. Ogden and Jones, under the firm name of McCormick, Ogden, and Co., for the harvest of 1849, and as to his said fourth claim contained in the letters patent above described, as granted him the 31st day of January, A. D. 1845, and as to his last claim contained in the letters patent above described, as granted him the 23d day of October, 1847, the said reaping machines made by said Cyrus H. McCormick, in connexion with Messrs. Ogden and Jones, for the harvest of 1849, are identical and in all respects the same as those made as above described by said C. H. McCormick and Co. the last year, and the reaping machines for 1849 and those for 1850 scarcely differed except as to shape and position of the fingers. And the said Cyrus H. McCormick, in connexion with said Ogden and Jones, made about fifteen hundred of said Cyrus H. McCormick's reaping machines, during the year previous to the one in which I was associated with him as above stated; and of those fifteen hundred reaping machines they sold about fourteen hundred in the year 1849. The reaping machines of said Cyrus H. McCormick have been very extensively used for several years. In single counties in this State and in Wisconsin, from one to two hundred of them are used with very great satisfaction.

A. M. DORMAN.

(*No.* 1.)

The United States of America, to all to whom these letters patent shall come:

Whereas William Schnebley and Thomas Schnebley, citizens of the United States, hath alleged that they have invented a new and useful improvement in the machine for cutting grain, grass, &c., which improvement *he* states has not been known or used before *his* application, hath made oath that *he* does verily believe that *he* is the true inventor or discoverer of the said improvement; hath paid into the treasury of the United States the sum of thirty dollars, delivered a receipt for the same, and presented a petition to the Secretary of State, signifying a desire of obtaining an exclusive property in the said improvement, and praying that a patent may be granted for that purpose: These are therefore to grant, according to law, to the said William Schnebley and Thomas Schnebley, their heirs, administrators, or assigns, for the term of fourteen years from the twenty-second day of August, one thousand eight hundred and thirty-three, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said improvement; a description whereof is given in the words of the said William Schnebley and Thomas Schnebley themselves, in the schedule hereto annexed, and is made a part of these presents.

In testimony whereof I have caused these letters to be made patent, and the seal of the United States to be hereunto affixed.

Given under my hand, at the city of Washington, this twenty-second day of August, in the year of our Lord one thousand eight [L. S.] hundred and thirty-three, and of the independence of the United States of America the fifty-eighth.

ANDREW JACKSON.

By the President:

LOUIS MCLANE,
Secretary of State.

CITY OF WASHINGTON, *to wit:*

I do hereby certify that the foregoing letters patent were delivered to me on the twenty-second day of August, in the year of our Lord one thousand eight hundred and thirty-three, to be examined; that I have examined the same, and find them conformable to law; and I do hereby return the same to the Secretary of State within fifteen days from the date aforesaid, to wit, on this twenty-second day of August, in the year aforesaid.

R. B. TANEY,
Attorney General of the United States.

The schedule referred to in these letters patent, and making part of the same, containing a description, in the words of the said William Schnebley and Thomas Schnebley themselves, of their improvement for cutting grain, grass, &c.

To all to whom these presents shall come:

Be it known that we, William Schnebley and Thomas Schnebley, of Hagerstown, in the county of Washington, and State of Maryland, have invented a new and useful improvement in cutting grain, seeds, and grass, and that the following is a full and exact description of the construction and operation of the machine as invented by us, and titled the Reel and Shear Grain Cutter.

This machine is to be made of suitable materials, of the following dimensions:

The frame or ground work to be from ten to twelve feet in length, and from three to nine feet in breadth, connected together by cross pieces; one, twenty-two inches in rear of the front ends; one, four feet six inches in rear of the first; one, two feet six inches in rear of the second; and one at the extreme end of the frame, from the second to the third; likewise a cross piece, as a head block for the spindles and perpendicular shaft to work upon. The first cross piece to be divided into equal spaces of three or four inches each, every other one of which is to receive a piece tenoned in it, and to project as far forward as the side pieces; making each twenty-two inches in length, clear of the cross piece which forms the bearing for the shears to rest upon, and the spaces to admit the grain as the machine is propelled by the horse or horses. The space between the first and second cross pieces is to be occupied by the revolving plane or sheet. The space between the

3209.

second and third cross pieces to be occupied by the wheels which are to carry the machine and to give motion to the whole; the space behind the wheels for purposes as the case may require. Immediately or upon a line with the first cross piece, a perpendicular is to be raised on each side of the frame, from two to four feet in height, of proper strength, with braces to keep them permanent, which are intended to give bearings to the gudgeons of the reel shaft. In rear of the space for the revolving plane or sheet, a guard board is to be raised, to give proper direction to the grain, and to be of proper height. In the centre of the space in which the wheels move, two uprights are to be raised, one on each side of the frame, of proper height, and connected together by a cap or head block, through which the perpendicular shaft is to pass; the upright to be raised to give strength and support to the frame. The shears are to be made of suitable materials, of the following shape and dimensions: The bottom plates are to be made into two blades, running out eighteen inches in length clear of the rivet plate, to which they are connected, and which is to be made of a proper breadth to suit the cross piece to which they are fastened; the blades that run out are to be set so far apart as to have a space of three or four inches between them, more or less, to suit or correspond with the spaces which are to receive the grain. The inner edges of each blade or bottom plate to be made similar to that of a common pair of shears, and of proper breadth to receive bolt holes, by which they are to be fastened to the projecting pieces, which are to be brought to a point in front of the plates, for the purpose of dividing the grain and passing the machine into it freely. The top blade, or other part which forms the double shear, is to be made wide enough behind, or at the heel, to project its edges one-eighth of an inch over the edges of the bottom ones, and likewise to be eighteen inches in length, corresponding with the bottom ones, but reduced to a point presenting the shape of a spear, a rivet hole to be made in it, to suit the bottom one, by which they are to be fastened together, in a manner to suffer them to play backward and forward like a common pair of shears, so that when the one side is shut the other stands open to receive the grain, presenting a shape or face of an acute angle; the edges of the top blades to be made similar to those of a common pair of shears; the handles of all the top blades are to continue back in rear of the cross piece from one to two feet, two of which are to be continued so far back as to pass the perpendicular shaft a proper distance, having their ends connected together by a cross piece, so as to permit them to play freely when in motion, the arms or handles of each to be made proportionally strong; the shorter ones are likewise to be connected to the larger, so that when motion is given to the larger the whole moves regularly together. The reel is to be made of suitable materials of the following dimensions: to be as wide as the space between the upright upon which it revolves, with four arms tenoned in each end of the shaft, at equal distances apart, each arm to be from two to four feet in length; at the end of each arm a segment corresponding with the circle which the reel will describe

with the arms in it is to be fastened from eighteen to twenty-four inches in curve length from one segment to the opposite one; this is to be put on a suitable piece of board, or otherwise fitting the curve or arch of each, and likewise on each segment, these forming the reel, which in its shape represents a cylinder or drum, with four open spaces and four surfaces, which may be increased to a greater number, or reduced to a less, as the case may require; the spaces are to admit the grain into the reel, and the lower edge of the surface to catch it and give it the proper inclination over a roller which is set upon two springs fastened by a screw bolt at each side of the frame and inside of the uprights. The roller is to be made of suitable material and diameter, its length to correspond with the width of the reel, the springs which support it of proper strength to cause it to revolve when its surface comes in contact with the surfaces of the reel, by which means the grain is to be rolled upon the revolving plane or sheet immediately behind it. The springs are used to cause the space between the surface of the roller and the surface of the reel to increase or diminish as the quantity of grain passing through becomes greater or less.

The revolving plane or sheet is to be made of suitable material of the following length and breadth: its length to suit the space intervening between the upright and the roller, and the guard board raised upon the second cross piece; its breadth to correspond with that of the machine, including two rollers around which it is to revolve, one end of each roller to have its bearing on the guard board, and the other end of each in the perpendiculars or uprights sufficiently high enough to suffer the plane or sheet to revolve without interruption from the handles or arms of shears below. The perpendicular or shaft is to be made of suitable material and of suitable height; it is to be placed in the space between the second and third cross piece, having its bearings upon the head block below and the cap above upon it; next to the head block it has a cog-wheel high up; it has an arm of proper length and construction immediately above the cap; it has a segment of a wheel of proper material; from the foregoing cap to the guard board a horizontal shaft is laid of suitable length and strength, and at right angles with the perpendicular; it has upon it a spur wheel on the end next to the cap, and a pulley or band wheel next to the guard board. Either one of the rollers which have been already described must have a pulley on the end next to the guard board, and to stand directly opposite to the band wheel or pulley on the horizontal shaft. This machine is to be propelled by a horse or horses hitched to a pair of shafts which are to be attached to the side of the same. The wheels are to be made of suitable materials and proper height, having each a separate spindle or shaft permanently fixed in their centre, so that when the wheels revolve or turn, the spindles or shafts are made to do so likewise, the bearing of each to rest upon the side frames and centre cross piece or head block of the perpendicular shaft; on the end of one of the spindles or haft next to the centre head block there is a cog-wheel of proper size and shape, interlocking the one on the perpendicular shaft, giving mo-

tion to it; the arm thereupon strikes the arms or handles of the shears, giving motion to them; the segment above the cap on the same shaft interlocks the spur wheel on the horizontal shaft, at every round or revolution giving motion, so that a strap or chain, or otherwise, connects the pulley at the other end with the pulley on the end of the roller, giving motion to the revolving sheet or plane at intervals; the reel receives its motion from the same ground wheel by means of a strap and pulley, or chain or line of shaft, as the case may require; the motion of the reel gives motion to the roller, thus by the movement of the horse or horses the whole is put into regular motion. The principle or mode of its operation *are* as follows: The projectors divide the grain as the machine advances, and direct it into the space or opening made by the shear being shut on the one side, and assists in confining the grain in a proper position to be cut, the shears after receiving the grain, previous to the cut being made, whilst it is in its perpendicular position, the reel, by its revolution, falls into and gathers that quantity received by the spaces, and bends it directly down over the roller; at this particular moment the shears make a cut and open a space on the opposite side, for the same purpose as before; the grain is then rolled in heads foremost by the roller and the surface on the reel, which can be made to confine it so tight as to prevent a boy from retaining it in his hands if he were to catch hold of it, by the strength of the springs which the roller moves upon to the revolving plane or sheet, rake or scraper, or the receiver behind the roller; when the surface of the reel leaves the surface of the rollers, the grain falls upon the receiver and remains in that position until two or more cuts are made, then it is made to pass off at right angles with the direction it came upon the receiver, by the revolving plane or sheet, or rake, or scraper, and deposited on the ground by the side of the machine in cuts or gripes. We therefore claim the right of the invention of the reel of open spaces and solid surfaces, the double-edge shear, the roller setting on springs, the revolving plane, or sheet, or scraper; the projectors or dividers of the grain as above described, and intended to be used for the purpose of cutting all kinds of grain, seeds and grass.

WILLIAM SCHNEBLEY,
THOMAS SCHNEBLEY,

Witnesses—
THOMAS JOHNS,
C. SCHNEBLEY.

(*No.* 2.)

The United States of America, to all to whom these letters patent shall come:

Whereas Obed Hussey, a citizen of the United States, hath alleged that he hath invented a new and useful improvement, being a machine for reaping and cutting all kinds of grain, which improvement he states has not been known or used before his application; hath made oath

that he does verily believe that he is the true inventor or discoverer of the said improvement; hath paid into the Treasury of the United States the sum of thirty dollars, delivered a receipt for the same, and presented a petition to the Secretary of State, signifying a desire of obtaining an exclusive property in the said improvement, and praying that a patent may be granted for that purpose: These are therefore to grant, according to law, to the said Obed Hussey, his heirs, administrators, or assigns, for the term of fourteen years from the 31st day of December, one thousand eight hundred and thirty-three, the full and exclusive right and liberty of making, constructing, using, and vending to others to be used, the said improvement; a description whereof is given in the words of the said Obed Hussey himself in the schedule hereto annexed, and is made a part of these presents.

In testimony whereof I have caused these letters to be made patent, and the seal of the United States to be hereunto affixed. Given under my hand at the city of Washington, the thirty-
[L. S.] first day of December, in the year of our Lord one thousand eight hundred and thirty-three, and of the independence of the United States of America the fifty-eighth.

ANDREW JACKSON.

By the President:
LOUIS MCLANE, *Secretary of State.*

CITY OF WASHINGTON, *to wit:*

I do hereby certify, that the foregoing letters patent were delivered to me on the thirty-first day of December, in the year of our Lord one thousand eight hundred and thirty-three, to be examined; that I have examined the same and find them conformable to law; and I do hereby return the same to the Secretary of State within fifteen days from the date aforesaid, to wit, on the thirty-first day of December, in the year aforesaid.

B. F. BUTLER,
Attorney General of the United States.

The schedule referred to in these letters patent, and making part of the same, containing a description, in the words of the said Obed Hussey himself, of his improvement, being a machine for reaping or cutting all kinds of grain.

Be it known, that I, Obed Hussey, of Cincinnati, in the county of Hamilton and State of Ohio, have made an improvement in the useful arts, being a machine for reaping or *or* cutting all kinds of small grain and grasses, which is described as follows, reference being had to the annexed drawing:

This machine consists of a frame, *a*, formed of two sills, four posts morticed into the sills, and two short top rails parallel with the sills; with several cross rails connecting the sills, posts, and top rails. To the two front posts is fixed the main axle, *b*, on the ends of which are wheels of a convenient diameter, say three [or] four inches, more or

3211.

less, which run on the ground and sustain the forward part of the machine, and give motion to the saw or cutters hereafter described, by which the grain is cut. In the rear of the machine the sills extend several feet. Across the sills, and in the rear of the wheels before mentioned, is fixed a platform, *c*, extending one side, which for perspicuity we will call the right side of the machine, about six feet beyond the line of the right wheel; the rear of the machine is sustained by a single wheel or roller, *d*, running on the ground and raising the platform about nine inches from the ground. This platform moves horizontally and is about three feet wide; on the front edge of the platform is fixed the cutting or reaping apparatus, which is constructed in the following manner: a series of iron spikes, *e*, which I will call guards, are fixed permanently to the platform and extend seven or eight inches, more or less, beyond the edge of the platform parallel to each other, horizontal and pointing forward. These guards are about three inches apart, of a suitable size, say three quarters of an inch square, more or less, at the base, and lessening towards the point. These guards are formed of a top and a bottom piece, joined at point and near the base, lying nearly parallel and about one eighth of an inch apart, forming a horizontal mortice or slit through the guard. These mortices being on a line with each other, form a continued range of openings or slits through the guards. The first guard is placed on the rear of the right wheel, and the last at the extreme end of the platform, and the intermediate guards at equal distances from each other, and three inches apart, more or less, from centre to centre. The cutters or saw, *f*, is formed of thin triangular plates of steel fastened to a straight, flat rod, *g*, of steel, iron, or wood, one inch and a half wide. These steel plates are arranged side by side, forming a kind of saw with teeth three inches at their base and four and a half inches long, more or less, sharp on both sides, and terminating nearly in a point. The saw is then passed through all the guards in the aforesaid range of mortices, the size of the mortises being suited to receive the saw with the teeth pointing forward, observing always that the points of the saw teeth should correspond with the centres of the guards. One end of the saw is connected with a pitman, *h*, which pitman is moved by a crank, *i*, receiving its motion from the main axis, by one or two sets of cog wheels. The vibration of this crank must be equal to the distances of the centres of the guards, or the points of the saw teeth, or thereabouts, so that when the machine is in motion, the point of each saw tooth may pass from centre to centre of the guards on each side of the same tooth at every vibration of the crank. If the main wheels are three feet four inches in diameter, they should in one revolution give the crank sixteen revolutions, more or less. The saw teeth should play clear of the guards both above and below. When the machine is extended to a large size, the platform should be cut off between the right sill and the first guard, and immediately behind the right wheel, and the two parts being secured together by hinges or otherwise, and a small wheel placed under the extreme end of the platform to sustain its weight.

In the operation of this machine the guards form double bearers to assist the saw teeth. The wheel, or roller *d*, which sustains the back part of the machine, is hung in a frame, and arranged in such a manner as to operate on the principle of a common castor, capable of being fixed permanently in such positions as to alter the machine should it be found at any time to incline to the right or left while in use.

Operation.

The power is given by locking the wheels to the main axis. The machine has one square wheel box, the other round, and locked at pleasure. If the power should be wanted, one or two, or more horses are attached and driven on the stubble before the machine, the right wheel running near the standing grain. The platform with the saw on its front edge extends on the right at right angles with the direction of the horses, with the guards and saw teeth presented to the standing grain. When the machine moves forward the saw moves with the teeth endwise and horizontal; the grain or grasses is brought between the guards; the saw teeth in passing through the guards cut off the stalk while held both above and below the saw. The butts of the grain receive an impulse formed by the motion of the machine while in the act of being cut, which causes the heads of the grain to fall directly backward on to the platform. In this manner the platform receives the grain until a sufficient quantity is collected to make one or more bundles according to the pleasure of the operator, then it is deposited with a proper instrument by the operator, who may ride on the machine. The following are the dimensions of a machine suited for two horses: The sills, top rails, and cross rails, are three by four inches square of oak; the posts 3 by 5 inches of oak; the planks for the platform are one and a half inch thick of good pine or other suitable materials; the platform formed of two or more pieces in width, secured together with battens; the sills are about seven feet long; the top rails about three and a half feet long; the posts are framed about two feet apart from outside to outside, and from the underside of the sill to the top side of top rail is about two feet three inches, and the whole, when connected by the cross rails, to be about three feet six inches wide from outside to outside of the sills; the back ends of the sills may extend about three feet seven inches in the rear of the hind posts; a space of three feet or thereabout will be occupied by the platform, bringing the front edge of the platform seven inches behind the foot of the rear post, so that the points of the saw teeth may be nearly on a line with the back part of the posts. The main shaft may be two inches in diameter of wrought iron, and hung to the forward side of the posts with journals fitted to boxes bolted to the posts; near the middle of this shaft is a spur-wheel, *k*, about two feet in diameter, of cast iron, which plays into a pinion, *l*, of six inches in diameter on a second shaft, *m*, which is hung on the top rails. On the second shaft is a level wheel, *n*, of about sixteen inches in diameter playing into a pinion, *o*, of about four inches diameter, on the crank shaft, *p*. This shaft is at right angles

3212.

with the second shaft, and placed in an inclined position, so that the lower end of the shaft may turn in a strap on such part of the platform as to admit the crank, *i*, nearly on a line with the back of the saw, in order to admit a fair operation of the pitman, and the upper end is so hung that it may be ungeared at pleasure. The main wheels, *g*, may be made similar to coach wheels but wide on the tread, say about three inches, and about three feet four inches diameter; the hubs about seven inches long, and the same in diameter; the rear wheel of any size from one to two feet diameter. The back of the saw may be from one inch to one and a half inch wide, and from three-sixteenths to one-quarter of an inch thick; and the steel plates for the teeth should be about one-tenth of an inch thick; one end of the mortise in the guard should be fitted to receive the back of the saw, so that the bearing may be on the back of the saw only. A tongue may be fitted in the mortise, *s*, similar to that of a wagon. These dimensions may be varied to suit the convenience of the constructor.

In this machine the following points are claimed as new and original: 1. The straight horizontal saw with the teeth sharp on their two sides for cutting grain. 2d. The guards forming double bearers above and below the saw, whereby the cutting is made sure, whether with a sharp or a dull edge, the guards at the same time protecting the saw from rocks or stones, or other large substances it may meet with. 3. The peculiar construction that the saw teeth may run free, whereby the necessary pressure and consequent friction of two corresponding edges cutting together, as on the principle of scissors, is entirely avoided. 4. The peculiar arrangement by which the horses are made to go before the machine being more natural, and greatly facilitating the use of the machine and the general arrangement of the parts as above described. In cutting grass the platform is reduced in width, and the grass falls on the ground as it is cut.

OBED HUSSEY.

Witnesses—JOTHAM SINCLER.
HENRY DIBBLE.

(*No.* 3.)

Obed Hussey, having been first carefully examined, cautioned, and duly affirmed according to law, and being examined on the part of the defendants, deposes, answers, and says, as follows, to the questions:

Question. What is your age, residence, and occupation?

Answer. I am 50 years old. I follow building reaping machines; that is my chief business; and I reside in Baltimore.

Question. How long have you been engaged in the business of building reaping machines?

Answer. Since the spring of the year 1833; the machines were used in the harvest of that year.

Question. Where did you first commence building machines?

Answer. At Cincinnati, Ohio.

Question. How long did you continue to build them there?

Answer. Three springs—until after the third harvest—that is, for the harvest of the years 1833, 1834, and 1835.

Question. When and where did you next build reaping machines?

Answer. In Hagerstown, in the State of Maryland.

Question. For what length of time did you build them there, and in what years?

Answer. The next year after I left Cincinnati—that is, in the year 1836. I built them there only one season; this answer is according to the best of my recollection. I could refer to memoranda that I have in my possession, and state accurately.

Question. Who assisted you in the construction of machines in Hagerstown?

Answer. Mr. Horatio Watkins and his three sons—Richard, Edward, and James.

Question. Do you know whether Mr. Horatio Watkins is alive or no?

Answer. He is not alive; neither is his son Richard alive now.

Question. Do you know where the other sons are?

Answer. One of them, Edward, is present, and the other I presume is at Hagerstown.

Question. Where did you next build reaping machines?

Answer. In Dorchester county, Maryland.

Question. For what length of time did you build there, and in what years?

Answer. For one season—the year 1838, I believe; the year after I left Hagerstown.

Question. Where did you next build reaping machines?

Answer. In Baltimore.

Question. What year was that?

Answer. 1839; my books will show if I am not correct.

Question. Have you continued to build reaping machines in Baltimore since that time?

Answer. Yes; I have.

Question. What part of the country did the machines you made at Cincinnati go to, to be used?

Answer. The first season they did not go out of the county; the second season they went to Illinois, and I think a machine went to Mexico about that time. The third season they went to Missouri, Illinois, and I think some to Ohio, and two of the build of that year came to Maryland. I think they were built after the harvest of the third season, and came to Maryland after that harvest. They were not used in Maryland at the harvest of 1835—not until the harvest of 1836; I may be in error in regard to some of the early dates, not having my papers here to refer to. I also built a machine in the city of New York, in the winter of 1834,–'35, which was used in the harvest of 1835, in Livingston county, in the State of New York; the date of making and using this machine may be wrong. I am not certain whether it was made in the winter of 1833–'4, and used in

the harvest of 1834, or made in the winter of 1834–'5, and used in the harvest of 1835. The Genesee Farmer, the Cultivator—one or both—will give the date of the operation of the machine in New York; there was a lengthy article in one or both of those papers on the subject, which will give the correct date. The American Farmer will give the date of the operation of the reaping machine near Baltimore, in the State of Maryland—its first operation.

Question. Where were the machines used that were constructed at Hagerstown?

Answer. They were used in the State of Maryland.

Question. Where were those constructed in Dorchester county used?

Answer. They were used in Maryland, Indiana, and Illinois; I think one was used across the line in Illinois. There were but two used out of Maryland, and they were both forwarded to Indiana; but one, I think, was used in Illinois.

Question. The machines which you constructed in Baltimore prior to the harvest 1847, where were they used?

Answer. They were used in Maryland, Virginia, Pennsylvania, and almost all of the wheat-growing States of the United States; I can't now remember the particular States.

Question. Are you acquainted with Mr. McCormick, the plaintiff in this case; if so, how long have you known him, and when, and where did you first see him?

Answer. I am acquainted with Mr. McCormick. I met with Mr. McCormick for the first time near the James river, about twenty miles above Richmond, in the year 1843 or 1844; I think it was in 1843.

Question. On what occasion and under what circumstances did you first see him?

Answer. We were both there for the purpose of using our reaping machines; it was at a harvest, not at an agricultural meeting. I was there showing my machine to the farmers, and Mr. McCormick appeared to be there for the purpose of showing his machine to the farmers also. I can't say that Mr. McCormick was there for the purpose of showing his machine; it is probable that he was there starting a machine that he had already sold.

Question. Do you know whether Mr. McCormick saw your machine on that occasion?

Answer. Our machines worked side by side, in the presence of the same gentlemen; Mr. McCormick was engaged in working his, and I worked mine.

Question. Had your machine a raker's seat on it at that time or not?

(This question objected to by the counsel for the plaintiff as leading. That, if the counsel desire the machine to be described, the counsel should ask the witness to describe the machine, and not point out to him particular parts of the machine.)

Answer. My machine at that time had a raker's seat on it.

Question. Do you know whether Mr. McCormick's machine had a raker's seat on it at that time or not? State your knowledge on that point.

(This question objected to by the counsel for the plaintiff as leading. If the counsel desire the machine to be described, the counsel should ask the witness to describe the machine, and not point out to him particular parts of it.)

Answer. I did not know of any seat on Mr. McCormick's machine.

Question. Can you state whether, on that occasion, the raker rode on McCormick's machine or walked on the ground?

Answer. He walked on the ground.

Question. Will you describe the machines which you constructed at Hagerstown, and particularly with reference to the seat and reel, if any?

(This question objected to by counsel for the plaintiff as leading, in pointing out particular parts of the machine not named by witness as having formed any parts of the machines constructed at Hagerstown.)

Answer. There were no reels made to machines constructed at Hagerstown. With regard to the seat, in one-half of the machines made at Hagerstown the seat was directly over the plank on which the cutters were fastened; over the end of the plank a cutter bar, which extended across the frame work immediately behind the horses. A change was made that year in the other half of the machines, by which the raker was placed a little in the rear of his former position, so that his feet would rest on or near that plank or cutter bar. The reason for changing the position of the seat was that the raker was changed about, so that he faced in a different way from that he before did. (The counsel for the defendants here suggest to the witness that the whole question has not been answered, and asks that the question may be repeated to the witness.)

Question—repeated.

Answer. There were no reels; half of the machines were made according to the pattern brought from Cincinnati. In these machines, the raker's seat was directly over the plank on which the cutters were fastened. The raker's seat was placed directly over the end of the plank to which the cutters were attached—that part of the plank or cutter bar which was bolted to the frame work of the machine, and directly back of the horses. The cutters were fastened on one portion of the plank, and the seat was over the other end; the raker's position was with his back to the horses. The other half of the machines made in that year were changed, so that the raker faced towards the horses, and the seat was necessarily farther back, which reversed the position of his feet and his body. I don't know that any other description is necessary.

Question. Can you state whether there was or was not a driving wheel in the machines made by you at Hagerstown?

(This question objected to by the plaintiff's counsel as leading, as describing the machine to the witness for him to affirm or deny.)

Answer. There must be driving wheels to all such machines; mine had two at that time.

Question. How was the raker's seat in those machines, made after the Cincinnati pattern, situated, with reference to the driving wheels?

3214.

Answer. It was between and behind the driving wheels, if by the driving wheels you mean those that rolled on the ground.

Question. In all the machines which you made prior to those made at Hagerstown, which way did the raker face with reference to the horses?

Answer. He faced behind, with his back to the horses.

Question. Had or had not all those, prior to that time, a seat for the raker?

Answer. The raker always sat on the machine, in all machines that ever I made. In my first machine the raker sat on the machine. The raker could, in these machines, either sit or stand, at his option. I think that was the case in all; I mean that the raker did, in all my machines, either sit or stand. In my first experiments the raker may not in all instances have done either the one or the other; what I mean to say is, that no quantity of wheat, say a rod or two, was ever cut without the raker either sitting or standing on the machine; but in some instances the machine may, and I think was used and followed by a raker for a short distance with a hand rake—a very short distance. The part on which the raker sat in my first machine was so high that in order to get a firm foothold he was obliged nearly to stand up. In my second machine the seat was lowered and a suitable seat prepared for the raker.

Question. Are you acquainted with the machines recently made—that is, within the last three years—by Mr. McCormick, or under his direction?

Answer. I think I am acquainted with Mr. McCormick's machines as constructed within the last two or three years.

Question. Can you state whether there is or is not a part of those machines which he describes as a finger piece?

Answer. I have heard the term used often, and I think it refers to the plank on which the cutters are attached. There is a plank in McCormick's machine which is in the same position as the plank in my machine, to which the cutters or blades are attached, and I believe this plank is termed by Mr. McCormick a finger piece. In my machine I term this plank a cutter bar.

Question. In the machines you built at Cincinnati, where was the raker's place with reference to this finger piece, or cutter bar?

Answer. It was directly over the end opposite to which the cutters were fixed—that is, over that end of it which was bolted to the machine directly behind the horses; I may also say that in some of my machines, a year or two after their first invention, experiments were made, and some machines were constructed, in which the raker occupied the same position in the machine, but leaned back, supported by a half or quarter circle instead of a seat; this corresponds with my models in the Patent Office. The first model had not this half or quarter circle to lean against, but that model was burned in the Patent Office; and when a second model was made, to replace that which had been burned, this or quarter circle was placed in the model; this is ac-

cording to the best of my recollection; machines were constructed giving this leaning position to the raker, and used, I think, in the third harvest after the machine was first invented; this is according to the best of my knowledge. They were used, I think, in the harvest of 1835. This of course ceased after the change in the form of the machine made at Hagerstown.

Question. Did you at any time, and if so when, attach a reel to your machine; and if you did, describe it? (This question objected to as leading, by the counsel for the plaintiff. Witness has before stated that he has given a full description, and has not named a reel.)

Answer. When I made my first machine, I made a reel for it. The reel had a roller or centre shaft, cross arms at each end, and four poles running parallel with the shaft. It was a square reel. The poles connected the ends with the arms. This reel was hung over the cutters, as I supposed to be proper for drawing the grain back. It had a band from a pulley on one of the shafts of the machine which drove the reel, or caused it to revolve. I attached a reel to the machine the first time it was ever started—the first time horses were ever attached to it.

Question. Where was this?

Answer. On the farm of Judge Foster, in the town of Springfield, Hamilton county, Ohio. I don't know Judge Foster's first name.

Question. Can you state whether you brought one of those reels to Hagerstown?

Answer. No, I did not, to the best of my knowledge.

Question. Do you remember to have seen one there?

Answer. I do not.

Question. How does the seat on Mr. McCormick's present machine compare with the machines you used in Cincinnati?

Answer. I think the position can't be very different; there is very little difference. I don't distinctly know the position of Mr. McCormick's raker, not seeing them frequently, but the raker must occupy nearly the same position, as he has precisely the same duties to do; I refer to the machines first made by me. Upon this answer being read to witness, he desires to correct the same, as follows: I did not mean to say that I did not know the position of the raker in Mr. McCormick's machine, but that I did not know the measurements or precise difference as to the spot where the raker sits; it may vary an inch or two, but my impression is that they occupy about the same position with regard to the cutters and platform; the duties of the raker in both machines is to discharge the wheat from the machine. In Mr. McCormick's machine this was done by drawing the wheat on to the stubble that had been cut in the previous swath, whilst in my machine the wheat was drawn directly back of the cutters; in my machines the wheat was raked backwards from the cutters.

Question. By the machine first constructed by you, how was the wheat to be cut separated from the grain to be left standing?

Answer. The outer point, sometimes called a finger, projected be-

yond the other points or fingers, and separated the wheat that was to be cut from that which was to be left standing. I don't recollect whether the machines with which I first experimented had or had not a board to prevent the cut wheat from rolling off to the standing wheat. The point that projected has been from time to time modified, but it still remains, and has always been used to separate the standing wheat from that to be cut. I have changed the form of the board which was used to prevent the wheat that was cut from rolling off to the wheat that was standing, several times; I have made it of several heights, but the point has always been preserved. The board I mention was used to prevent the wheat that was cut from rolling off. I had a point to separate the wheat to be cut from that left standing, which point was distinct from the point of the board; the board, at least at this time when attached to the machine, forms a continuous line with the point, but the point is left when the board is detached.

Question. What is the length of that board?

Answer. About four feet.

OBED HUSSY.

And the said Obed Hussy being cross examined on behalf of the plaintiff, further deposes, answers, and says:

Cross question. How many machines did you construct in Cincinnati, during the first year you said you were building them there?

Answer. Only one.

Cross question. How many did you construct the second year?

Answer. I don't remember but four. I have no distinct recollection of but three, but I think there was another; I mean by these answers, for the harvest of those years. I think one of the four machines was built in New York. There is some little confusion in my mind about the dates of the construction of those machines; I can't be perfectly accurate.

Cross question. How many machines did you construct for the third harvest, in addition to those already built?

Answer. Twelve or fourteen; I can't be precise as to the number.

Cross question. How many years were you building machines at Hagerstown?

Answer. One.

Cross question. How many machines did you build in Hagerstown?

Answer. Six.

Cross question. How many machines did you build in Dorchester county, Maryland?

Answer. I don't recollect; I think about the same number.

Cross question. Did you say that you commenced building machines in Baltimore in 1839?

Answer. That is my impression. My papers, however, will show when I first commenced in this city.

Cross question. How many machines did you build the first year you were in Baltimore?

Answer. I think it was sixteen.

Cross question. Was there any one year between the time of commencing building machines in Cincinnati and your coming to Baltimore, in 1839, that you built no machines?

Answer. There was no year that I have not been engaged in building machines.

Cross question. How were the seats constructed prior to the manufacture at Hagerstown?

Answer. My first machine had no particular stool designed for a seat especially, but he sat on a board that covered the back part of the machine; this the raker occupied as a seat, without there being any stool or seat made particularly for that purpose. Having found that this place occupied by the raker was a little insecure as a seat, the board was turned round and placed lengthwise, the end projecting backwards so that he could sit on it, and his legs on one side or the other, or on both, much like a man sitting on a saddle, and giving the raker a firm seat. This was the second machine constructed by me and used in the second harvest—in fact, it may be said to be the first good machine I made. The first was a temporary machine, constructed as an experiment; it was perfect in its work, and cut as fast as the machines now do, but it was not made so as to last. The cutting was done as well in the first machine as in any subsequent one.

Cross question. Were there any other changes made in the machines constructed prior to those in Hagerstown?

Answer. Not in the cutting apparatus. The general form of the wood work was so changed as to adapt the machine to mowing.

Cross question. How many of the machines enumerated above were constructed as mowing machines, and in what years as near as you can state?

Answer. I think there were four; one was used in the summer of 1835, to the best of my recollection, and constructed immediately before. There were three others constructed prior to the harvest of 1836, one was sent to Missouri, and one was brought to the State of Maryland, and now is in Hagerstown. These machines were constructed so that they could be used for reaping and mowing also.

Cross question. How did the raker succeed in operating in raking the wheat in the machine you first constructed, and what difficulties did he meet with?

Answer. The duties were precisely the same as now, but it was harder work; and when the change was made, it was found that he could do the work much easier.

Cross question. How far was it practicable for the man sitting upon the machine first constructed to continue the operation of raking with practical success in 1833?

Answer. No opportunity was had to test how long a man could continue to work upon it.

Cross question. You have said that you used the reel in 1833; how far did you test the reel that year?

Answer. Only so far as to be convinced that it was not necessary to the success of my machine, rather an impediment; unless it be absolutely necessary it is an impediment.

Cross question. Did you subsequently abandon the use of the reel?

Answer. After finding it was of no use, in my opinion, on my machine, I took it off and left it in the field, and have not used it since.

Cross question. Sitting in the inconvenient position the man did in the machine of 1833, was it not impracticable to rake the grain so as practically to succeed with the as it was then applied?

Answer. The reel was not used long enough to test that question. The machine was constructed to test the question as to whether grain could be cut, and the reel was used so as to make it certain that the grain should be cut, and, when found to be unnecessary, was immediately taken off of the machine. My design was, in the first instance, to drop the wheat at the side of the machine, and for that purpose I had a revolving cloth apron to bring the wheat to the side in aid of the raker. The apron was not designed to drop the wheat on the ground, but to bring it within reach of the raker who was to drop it. The impracticability of this apron was seen at the same time that the reel was found to be unnecessary, and both were abandoned together. I don't mean that in the sense of the law they were abandoned, but they were laid aside for further consideration.

Cross question. You have spoken of a model in the Patent Office, which you have described as having a half or quarter circle for the raker to lean against, deposited subsequently to the fire; was that the mode of construction adopted by you in those machines built by you prior to those built at Hagerstown?

Answer. It is my impression that the 12 or 14 machines constructed in Cincinnati were constructed in that mode.

Cross question. Did you not find it impossible for a man unsupported without leaning against the permanent support which you described as the segment of a circle, to rake the grain from the machine?

Answer. That support was no further necessary than to keep the man from being jolted off of the machine by its motion. If he could keep his place on the machine he could exert his strength as well without the support as with it. A man would not find it necessary to lean against a post to exert his strength if a machine were stationary. Perhaps this may be better understood by my saying that a man could not perform the duty of a raker without a firm foothold, and for want of that in my machine it was necessary that he should have some other support.

Cross question. Do I understand you to say that without some additional support than simply leaning against the curve piece, the man could not do the raking on your machine?

Answer. I did not mean to say that. He has always done it successfully in any position that I have placed him.

Question. Do you not use some additional support to the curve piece on all your machines, to give the raker permanency of support?

Answer. That curve piece went out of use at the time the change was made at Hagerstown. I have built a kind of machine since 1841, and am building them this year, where the raker has a seat with a permanent timber or part of the machine between his legs, with his face to the horses. I build another kind of machine where the raker is provided with a seat, where he can have part of the seat between his legs or not as he may choose.

Cross question. Were not the few machines built prior to the change at Hagerstown comparatively defective, and was not the success in raking the grain from the machine incomplete until that time?

Answer. Every thing is comparative. I thought my machines quite perfect there; I thought the raking was done very well at that time, but it is done much easier now, and I hope that I may get it better yet.

Cross question. Have you seen a model in the possession of the defendants copied from your model in the United States Patent Office?

Answer. I have not.

OBED HUSSEY.

And the said Obed Hussey, being re-examined on the part of the defendants in said cause, further deposes, answers, and says, as follows:

Question. Do you remember the year that you filed the model after the burning of the Patent Office?

Answer. It was the year that I made machines in Dorchester county. The model was made in Dorchester county.

Question. Did you take out a patent for your machine?

Answer. Yes, in 1833.

Question. Could you or could you not do good work when walking with the machine and raking cut grain?

Answer. It is my impression that I could not. The only trial I ever made was behind the machine for a trial. I found that in putting my rake on to take off a bundle, I had to stop, and by time I got the bundle up the machine got ahead, and I had to run to catch up with it. I do not think it would have been practicable.

Question. After making machines the second year, could or could not a man do good work as a raker, and continue to do work all day for a day at a time?

Answer. I think a man could do it, but in my opinion it would be very severe labor. It is my impression that the first year I did good work in the field was in Maryland, harvesting at General Tilghman's. It is my impression that there was one man who did the raking; he may have had assistance, but he did the greater part. There were two men I recollect who managed the machine; one who drove the machine, and the other raked. That was the first harvest that the machines were used under my own direction during a whole harvest, and I heard little or no complaint from the raker. There might have been complaints, but if so they were of little or no consequence.

Question. What do you mean by the expression "good work" in your last answer?

Answer. I was not aware that I used the expression. I don't know what I meant exactly by the expression; I don't know but I meant that it was the first year that I went through an entire harvest myself with a machine. The machines always did good work. They all worked well.

Upon this answer being read to the witness, he desired to explain it further, as follows:

I meant to convey the idea that was the first year that a machine under my direction had been put up to its full capacity in cutting an entire harvest.

Question. Look at the exhibit now shown you, marked "Defendants' exhibit No. 1." How far did the reel which you made correspond with one used in the drawing now shown?

Answer. There is in my opinion but one position for a reel in all reaping machines, which is perpendicular over the cutters, or nearly so. My reel, the shaft of it was nearly perpendicular over the cutters as far as I can recollect, and as far as I can understand this drawing, it appears to me to be nearly in the same position, but others can understand it as well as I; it does not seem to be a perfect drawing.

Question. What positions were occupied by the posts that supported your reel?

Answer. I don't recollect having any post next to the machinery. The machine from its construction did not need any post for that purpose; the end of the reel was supported by a post of the machine itself, without any particular post for that purpose; that is my impression; it is now so many years since this was done, that I can't recollect whether I put a block on the machine to make it higher or not. The other end of the reel was supported by a post, the form of which I have entirely forgotten.

Question. How did the position occupied by the raker in your machine that had a reel correspond with the position occupied by the raker on the machine exhibited in the drawing?

Answer. The position of the raker on my first machine, and on all the machines made by me until I made the change at Hagerstown, was similar to the one on the drawing; the position of the raker seems to be the same, but the attitude of the raker in my machines was very different; in my machines the raker leaned backwards and braced his feet forward, but in the machine exhibited in the drawing the raker is leaning forward. The feet of the raker in the drawing are under the place where the raker on my machine would sit; his feet are not in the same place that they would be in on my machine, from being supported in front in the machine on the drawing. The duty of the raker in the machine on the drawing seems to be to draw the wheat out to one side, which makes it necessary or convenient for him to lean forward. The raker on my machine having to push the wheat back-

wards, it was more convenient for him to lean back and brace his feet forward, and support himself from behind.

Question. Up to the time of the change at Hagerstown, was or was not the position of the raker in your machines on the end of the finger piece, as shown in this drawing?

Answer. The position of the raker in my machines varied at different times; that is, the position of his feet, and his attitude. Whilst the segment of a circle was used to brace the raker, his feet were more braced out by leaning against the segment of the circle. When I used the board which is described in the first good machine I made placed lengthwise the machine, and when this was used by the raker as a seat, his feet was often drawn up more under him; but the seat was at all times nearly over the cutter bar until the machines were made at Hagerstown; that embraced the change in the raker's seat.

Question. In the machines before those constructed at Hagerstown, was or was not the position of the raker over or on the end of the finger piece shown in the drawing?

Answer. It was exactly over what is termed the finger piece in my machine, and it appears to be so in the drawing, as far as I can understand it.

OBED HUSSEY.

And the said Obed Hussey being further cross examined on the part of the plaintiff in the said cause, he further deposes, answers and says, as follows:

Cross question. Please describe the main frame-work of the first experimental machine you have named in your examination, and the mode of attaching the cutter bar thereto.

Answer. The frame-work was composed of two sills at the bottom, horizontal, about six feet long, more or less; on one end of these sills rose two or three posts; one post in or near the middle of the sills, and the other one or two; there were two posts, I think, in the first machine, at one end of the sills. These posts rose about two feet and a half or three feet; on top of these posts there was a top rail, which top rail was about half the length of the sills. The one sill, one top rail, and three posts, formed one side of the frame of the machine, and there were two sides alike to the machine; these two sides were connected by several lateral cross bars; one-half of the sills were occupied by the frame work which contained the cog-wheels, geering, and driving wheels. The position of the sills were about 8 or 9 inches from the ground. The platform on which the wheat fell when cut occupied the extended ends of the sill. This platform was composed of the cutter bar and plank to the width of three or four feet. The position of the cutter bar was on the extended ends of the sills next to the frame-work. The part of the frame to which the geering was attached was the front of the machine. The cutter bar was bolted to these sills; I think the plank rested on the sills, but can't say now positively whether they were bolted above or below on the sills. The cutter bar was

328.

so placed that the cutting apparatus was nearly on a range with the hind post in the middle of the sills. The seat of the raker in my first machine, if he sat at all, was on the frame-work; but whether there was a rail framed in lower than the top rail for him to sit on, I can't now recollect. There were several cross rails, which were a part of the frame. That part of the frame might have been two high for the raker to sit on, and he may have merely leaned against it; but if he sat at all, he must have sat over the finger piece.

Cross question. Did the platform extend across over the back end of the sills to the opposite side of the frame?

Answer. Yes.

Cross question. You have spoken of a canvass that was made to revolve; did *did* that extend across the whole platform?

Answer. That did not extend across the whole platform. It extended, as far as I can recollect, over between the two sills.

Question. Was your object to carry the wheat thus far, and then have it thrown off by the raker?

Answer. Yes.

Cross question. Will you look at defendant's exhibit No. 1, and say whether it is sufficient to understand the various parts of the machine?

Answer. I think I understand the construction of the machine from the drawing—the general construction; I could not make a machine from the drawing, for it never was intended as model for a mechanic to make a machine from; and drawings of that kind, however perfect, necessarily do not show all parts of the machine.

Cross question. Is it not necessary, in the operation of your machine, for the raker to assist in gathering the standing wheat to the cutting apparatus and delivering it upon the platform?

Answer. No, because standing wheat will always come off itself.

Cross question. Is not the wheat often in such a condition as to require assistance from the raker?

Answer. Yes.

OBED HUSSEY.

Cross question. Did you or not know of the existence of a machine constructed by Mr. McCormick, the plaintiff in this case, or have such a machine described to you or named, or have you seen any publication of such a machine prior to the year 1833?

Answer. Never, nor of any other person.

Cross question. Have you ever been selling machines for reaping in competition with McCormick's machine, and are you now engaged in constructing and selling machines in competition with the plaintiff's machine?

Answer. I am engaged in constructing and selling reaping machines, and have been ever since 1833. I don't understand the nature or bearing of the question. I have been selling machines without regard to other persons. If that is what is meant by competition, then I have been engaged in competition. Doubtless Mr. McCormick and myself

have been trying to outdo each other; we have each, no doubt, tried to make the best machines.

Cross question. Do you know whether or not the machines of Mr. McCormick, the plaintiff, have been sold or introduced in the same market as yours?

Answer. I believe that most people know that Mr. McCormick's machines are on sale in Baltimore, and I have heard of Mr. McCormick's machines being used in various parts of Virginia, and Maryland, and other places. I was called upon last evening by a farmer who wished to purchase one of my machines. He informed me that if he could not get one of mine, he would purchase one of Mr. McCormick's. Mr. McCormick's agent was waiting in the ante-room; as soon as I informed him I could sell him a machine, he went out and gave Mr. McCormick's agent an answer, and bought one of my machines. He also told me that he had been using one of Mr. McCormick's machines for two years.

Cross question. Have you, within the last few weeks, been bargaining with a person for one of your machines, who subsequently bought one of the plaintiff's machines; and after that transaction, did you or not complain or ask about the transaction of Mr. Chenowith, the plaintiff's agent here?

Answer. I have not the most remote recollection of any such circumstances. I don't know, or now recollect, of any man who has called on me and afterwards purchased one of McCormick's machines. Such circumstances may have occurred and I have forgotten it. A person may have called on me and afterwards purchased a machine from Mr. McCormick's agent, but I don't recollect of an instance; and I don't recollect of ever having had such a conversation with Mr. Chenowith. I don't mean to say, as stated above, that the circumstances alluded to in the interrogatory may have occurred and I forgot it, but that a man may have called on me and afterwards purchased McCormick's machine without my knowledge.

OBED HUSSEY.

(*No.* 4.)

Edward Watkins having been by me first carefully examined and cautioned, and duly sworn according to law, and being examined on the part of the defendants, deposes, answers, and says, as follows:

Question. What is your age, residence and occupation?

Answer. My age is thirty-eight years; my residence is in Washington county, Maryland, and my occupation is that of a machinist.

Question. Do you know the parties to this suit?

Answer. I do not. The first time I ever saw Mr. McCormick was to-day, and on last Sunday evening Mr. Morgan, one of the defendants, came to my house, and I saw him for the first time on Monday morning last.

Question. Do you know Obed Hussey, who has testified here to-day? If yea, when and where did you first become acquainted with him?

Answer. Yes, I know him. I first became acquainted with him at my father's house near Hagerstown, in 1836.

Question. What did he come there for, how long did he remain, and what did he do?

Answer. He came there for the purpose of getting my father to build reaping machines for him; he remained there, from some time about the last of February or first of March, until after harvest; he superintended the building of his machines.

Question. Who worked on the machines with your father?

Answer. My father did not work on them at all; my brother and I did the work; a younger brother also did some little work on the machines, but a very little.

How many machines were built during that time?

Answer. There were six or eight built, I don't know which, but I have always been under the impression that there were eight built.

Question. Can you state whether there was or was not a raker's seat upon those machines?

Answer. There was.

Question. Where was that seat located, and which way did the raker face?

Answer. The seat was located directly behind the frame part of the machine, on the platform, right at the end of the bar on which the knives were riveted. The raker sat with his back to the horses, on part of the machines; on part he sat the other way.

Question. Did you see any of those machines operated in the field?

Answer. Yes; I went to see one on the 4th of July.

Question. Which way did the raker face on the machine that you saw operated then?

Answer. He sat with his back to the horses and faced the other way.

Question. Do you remember whether any of those machines were made after a pattern brought there by Mr. Hussey or not?

Answer. They were all made by that pattern, with some alterations.

Question. Where was that pattern brought from?

Answer. The machine was marked or branded "Made by Obed Hussey, Cincinnati, Ohio."

Question. Who brought it there?

Answer. There was a team brought it there.

Question. Where was the raker's seat on the machine that was brought there, with reference to the finger piece or cutter bar?

Objected to as leading, by the plaintiff's counsel, because of its pointing out parts of the machine which have not been mentioned by the witness.

Answer. The seat was directly behind the frame-work, near the finger piece or cutter bar, and the raker sat right over the finger piece or cutter bar.

Question. Over what part of the finger piece or cutter bar was the raker's seat?

Answer. It was over the part that the knives did not occupy, and at the opposite end.

Question. Can you state whether you ever saw, and if so when and where, attached to one of the machines made by or under the direction of Hussey, a reel?

Answer. It has been a good while since they were made, and I can't be positive in every recollection; but I have always been under the impression that one of Hussey's machines was made with a reel, which was tried and thrown away as useless. I should not have recollected the other parts of the machine so well if I had not handled them often since.

Question. Do you recollect any circumstances in relation to why the reel was thrown away?

Answer. I recollect Mr. Hussey and my father having some controversy about the reel—father arguing that it was necessary, and Mr. Hussey contending that he had tried it and it was not necessary. They would sometimes talk about for half a day together.

EDWARD WATKINS.

Bell.—(*No.* 5.)

From Loudon's Encyclopœdia of Agriculture.

Bell's reaping machine (figs. 376 and 377) is the most recent as well as the most perfect invention of this description. The frame-work of this machine (A A) may be made lighter or stronger, according to circumstances; B B and C C are four wheels upon which it is mounted, of whatever form it is made. B B have their spokes at right angles to their naves, and are $3\frac{1}{2}$ feet in diameter. For neatness' sake the naves are made of cast iron. The wheels are from 5 to 6 inches broad at the rims, and are surrounded by a slight hoop of iron. Were they made narrower in the rims, when the ground was soft they would both cut it and drag, without giving motion to the connected parts of the machinery. The small wheels (C C) which support the front of the frame are like the large ones (B B), made of wood; they are fourteen inches in diameter, and six inches broad at the rims, with a very slight hoop of iron round them. Their axles, which are of iron, are screwed to the frame, and are $1\frac{1}{4}$ inches in diameter. The wheels are placed as near the front of the frame as possible, the reason for which will appear when the general description of the machine is given.

The wheels (B B) are connected with the main axle (D) in such a manner as that they may turn upon it similarly to a carriage wheel, without moving the axle with them, or they can be fixed to it at pleasure, so as to turn it round with them, as occasion requires. For this purpose the holes in the naves are circular, and of course so much of the axle as passes through them is round. There are cross flanges, cast upon the nave, which catch hold of the coupling box E when the machinery is to be moved, and are disengaged from it by the handle F when the machine is going, without moving the machinery. In the

engraving this part of the apparatus is entirely concealed at one of the wheels, except a small portion of the handle at H. The other coupling box is but faintly represented at E. The handle F has a joint in it which is fixed to the other half of it, which passes through the frame of the machine, and terminates with the handle H, so that both coupling boxes can be managed by the driver standing at H, although they are on opposite sides of the frame. The main axle (D) is $3\frac{1}{2}$ feet long between the shoulders, and eight inches from the shoulders to the coupling box; the frame of the machine is four feet broad by seven feet long. Fixed upon the main axle (D) is the beveled wheel (I), sixty teeth, part of which is seen in the engraving. This beveled wheel moves two pinions of ten teeth each. These pinions are concealed in the plate by the frame of the machine; one of them turns the crank rod (K), and the other gives motion to the coupling wheels (L L) upon the top of the frame. The crank rod (K) being thus put in motion as the machine moves forward, the crank M, which gives motion to the cutters, revolves with a uniform and steady motion. N is a coupling strap of iron which connects the crank (M) and the movable bar (O O) together, which is kept in its place by means of the sliding hooks (P P) working in the brass sockets (Q Q), which are screwed upon the strong iron supports (R R). It is obvious that as the crank (M) revolves it will, by pulling the connecting-rod (N), give a perpetual motion backwards and forwards to the movable bar (O O). In order that there may be as little friction as possible to the movable bar (O O), there are two friction pulleys fixed to the iron supports (R R), upon which the movable bar (O O) rests. These are not seen in the plate, as they are placed immediately below the bar; but to any person who considers the thing attentively, they must be readily understood. They are of the greatest consequence, as the back parts of the cutters wholly rest upon the movable bar (O O), and form the spring which each cutter must necessarily have; the pressure upon it is very considerable. With respect to the cutters, it may be here remarked that the greater body of them is made of iron, edged with the best steel, hardened as much as they will bear without breaking out into chips when the machine is in operation. The cutter bar (that is, the bar upon which the cutters are screwed) is strongly screwed upon the extremities of the supports (R R), and is six feet long by three inches broad, and three-fourths of an inch thick. The lower or fixed cutters (S S S) are made triangular, of solid iron edged with steel, as before mentioned; they are fifteen inches long from the point to the extremity, four inches broad at the base, and nearly one-fourth of an inch thick; they are steeled only to the front of the bar, thus leaving a steeled edge of about one foot. In the middle of the base of the cutter there is a hole pierced half an inch in diameter, and a corresponding one in the bar where it is to be placed. The hole in the bar is screwed, and in fixing a cutter, a bolt is passed through the hole in the base and screwed tightly down into the bar. To prevent a cutter from shifting its place, there are other two small holes pierced, one on each side of

the half inch hole in the base, and corresponding ones in the centre of the bar; these holes are one-fourth of an inch in diameter. Into the holes in the bar there are two iron pins firmly riveted below, and left one-eighth of an inch above the bar, made to fit neatly into the holes in the cutters, although with a sufficiency of looseness to allow the cutter to be taken easily off when the bolt in the middle is screwed out. By this means, when the bolt in the middle is screwed down, a firm and unalterable position is insured to the under cutter. The upper cutters (U U), &c., &c., like the under ones, are made of good iron, edged with steel as far back as the hole where the bolts upon which they turn pass through. They are three inches broad, where the hole is pierced, and behind the cutter bar, as is seen in the plate. They are bent down about two inches, to allow the rollers and canvass to operate, as shall be afterwards described. After being continued horizontally about three inches, they are again bent up, and their extremities placed above the movable bar. They are made about 13½ inches long from the point to the hole, and about 7½ inches from the hole to the extremity backwards. Both upper and under cutters are sharpened on both sides, similarly to a pair of scissors—the under ones, of course, upon the upper sides, and the upper one upon the lower sides—thus forming, when the cutters are screwed to their places, a perpetual cutter upon that principle. The bolts upon which the upper or movable cutters work are half an inch in diameter, and are screwed to the bar through a hole of corresponding breadth; they are made to go through the bar about half an inch, upon which a nut is screwed, to prevent the bolt from unscrewing, which they would otherwise do, from the moving of the cutters, which would allow the edges of the cutters to separate, and of course the machine would get deranged, and would not operate. The points of the under or fixed cutters are six inches separate; of course the holes in the bar by which they are fixed are six inches apart. The bolts of the upper or movable cutters are intermediate—that is, three inches from the others—so that the cutter bar is bored from end to end with holes half an inch in diameter and three inches distant. The small holes, with the pins which prevent the fixed cutters from shifting their places, are each 1½ inch from the large holes, so that the bar, before the cutters are screwed upon it, is pierced first with a small hole, then a large one, then two small ones, then a large one, then two small ones, &c., as may be understood from the plate, each hole 1½ inch apart. The back parts of the movable cutters, as was already mentioned, rest upon the movable bar, and on each side of every cutter there is an iron pin of one-fourth of an inch in *in* diameter, riveted into the movable bar. By means of these pins, it is easily seen, from the consideration of the plate, that as the movable bar is pushed backwards and forwards by the crank (M) upon the friction pulleys below it, the movable cutters will have a perpetual motion backwards and forwards. Under the heads of the bolts which fasten the movable cutters, and the cutters themselves, there is placed a washer of brass to diminish the friction as much as possible, and for

the admission of oil there are two small holes pierced in the head of each bolt. There are twelve movable cutters and thirteen fixed ones, with intervals of six inches between the points of the latter, so that the breadth of the machine is exactly six feet; but this breadth, from the principle of the machine, may be either increased or diminished, according to the nature of the farm upon which the machine is intended to operate. Upon a perfectly level farm, the machine might be made broader; but upon a farm of sloping or uneven surface, one of six feet in breadth will be found to be work enough for two horses. As it was before stated, the bevel wheel (I) gives motion to the coupling wheels (L L,) of 18 teeth each; these move the horizontal shaft *v*, and the wheel W which is fixed to the end of it. The wheel W has 36 teeth, and pinion X, which it turns, and which is fixed upon the gudgeon of the roller Y, has 18 teeth. This part, however, is misrepresented in the drawing, which was taken from a model which had the rollers turned by coupling wheels, as shown in the plate. The one roller (Y) turns the other (Z) by the pitch chains, (*a a*,) the chief use of which is to keep the sheet of canvass from changing its place by the revolution of the rollers. The canvass, from its gravity, would slip down upon the rollers as the machine moved forward, and it would twist upon them by the unequal pressure to which it is exposed by the cut corn pressing unequally upon it. To prevent these derangements, there are loops fixed to the canvass, which are made fast to the links of the chain, about six inches apart; and there being an equal number of links in both the upper and lower chains, and an equal number of teeth in the four pulleys upon which they work, the canvass revolves uniformly, without being in the least deranged by the many casualties to which it is exposed. *b* is the pole to which the horses are yoked; it is made of wood, and is firmly fixed to the cross rails upon the top of the frame; its length is ten feet from its extremity to the frame of the machine. *c c* are the swingletrees by which the horses are yoked; they are yoked similarly to horses in a carriage, so as both to draw forward or push backward at pleasure. Their heads, of course, are towards the machine, and in appearance they push the machine before them; but in reality they are drawing the same as in the plow. *d* is a small rod of wood, or helm, which the driver holds in his right hand, by the pulling of which to him, or the pushing it from him, he conducts the machine straight forward. The dotted lines in the plate are a continuation of the pole, with the swingletrees and helm attached. The machine is turned at the end of the ridge by the following contrivance: The two wheels (*e e*) in the body of the machine are joined to the lever by an upright movable axle; these wheels are similar to the two (*c c*) on the front of the frame; they have a strong iron axle, which is made so long as to let the wheels conveniently turn between the crank rod (K) and the frame of the machine. In order that this piece of the apparatus may be used with advantage, the beveled wheel (I) is not placed upon the middle of the main axle, (D,) but about one foot from the end of it, as is seen in the engraving. This throws crank rod (K) nearer the

side of the machine, thus leaving plenty of space for the turning apparatus. In the middle of the horizontal axle of the wheels (*e e*) there is an upright standard of iron, sufficiently strong, and firmly joined to the horizontal axle. This upright standard or axle passes through the middle of the lever *f*, (which is of wood, and at this part about five inches square,) about 20 inches from the end of it. Upon the top of the upright standard there is placed a segment of a wheel (*i*,) with the teeth on the lower side, which is worked by a small pinion of six teeth upon the end of the rod (*g*.) This pinion is not seen in the engraving, as it is completely concealed by the segment (*i*.) The rod (*g*) and the small pinion upon it are turned round by the handle *h;* the pinion moves the segment *i*, which, being firmly fixed to the upright standard, turns the small wheels *e e* either way. When the machine is cutting, the wheels *e e* are put parallel to the cutters, and in this position they assist the machine in passing a furrow, without allowing the cutters to come in contact with the opposite side of it. But when the machine is to be turned round, they are turned, with an angle to the path of the machine, by the handle *h;* and the rod *g* being fixed in that position by a screw near the handle, the lever is then pressed down, and fixed with a catch to the frame of the machine. In pressing down the lever *f*, the small wheels *e e*, which before were about two inches from the ground, are pressed to the earth about two or three inches below the usual level of the machine. Of course, the two front wheels (*c c*) are lifted two or three inches from the ground, and the cutters considerably more, thus insuring them from accident while turning round. The machine now rests upon the two large wheels (B B) and the two small ones *e e* of the lever; and the two front wheels (*c c*) go for nothing, as they do not touch the ground. But the axle of the small wheels *e e*, being placed with an angle to the main axle (D) of the large wheels B B, the machine will naturally turn round upon the horses, being moved slowly forward; of course, the greater the angle formed by the two axles, the less space will the machine require to turn upon. In turning the machine, however, attention must always be given to disengage the large wheels B B from the main axle (D;) this is done by shifting the coupling boxes E E by means of the handles H H. The apparatus *ll*, or collector, is placed exactly above the cutters; it is $2\frac{1}{2}$ feet in diameter, made of wood as light as may be. The supporters *k k* in the original machine were made of iron; but now the two side beams of the machine are made of a piece of wood, with a natural cast upon it, similar to the beam of a plough, but rising with a much greater angle, as near the form of the iron supports in the plate as possible, and continued horizontally till their points are exactly above the movable bar *o o*. The points *p p* are made of iron; blunt, as in the plate, to allow the collector (*l l*) to turn round. At *q q q q* are strong iron screws, working in nuts placed in the wooden part of the supports, which serve the double purpose of uniting the iron part to the wood and allowing it to be drawn forward or pushed backward, as occasion may be, by either shifting to another hole, or, which is better, by long

slips in the middle of the bar. Long corn requires the collector to be placed forward, and short corn requires it to be taken back. At *o o* are two perpendicular rods, which slip in the holes in the points of the supports, by the moving of which upwards or downwards the collector (*l l*,) which turns in sockets in the lower ends of these rods, is lowered or heightened according to the length of the corn to be cut; the rods are fixed in their places by screws in the end of the supports. The collector is turned by a cross belt or chain passing over the two pulleys *m n*. A piece of slight canvass is put around the rollers (Y Z,) fixed to the chains *a a*, as before described. The lower ends of the rollers have a shield of plate iron round their gudgeons to prevent the cut corn from warping, which it does effectually. The bushes of the roller *z* are made to shift by screws to tighten the chains a little, to prevent them from slipping the pulleys, as they lengthen a little by using, especially when new.

Fig. 376 is a representation of the machine in full operation; about six or eight yards of the field require to be cut at the ends to allow the machine to turn without injuring the corn, which may be done by the machine itself. If the corn is standing nearly upright, a convenient number of ridges may be taken in and cut by going round them; but if the corn is standing, and the field free from deep furrows, it may be cut by going round and round it, till it is finished in the middle. One man, as seen in the plate, is sufficient to manage the whole operation. The cutting, collecting, and laying are the three principal parts of this machine; which have been all more or less explained in the general description given above. But as they are particular, a few words on each of these heads may still be necessary, that the machine may be completely understood in all its bearings.

First. Then with regard to the cutting it is desirable that the machine should do her work, and nothing more. If the motion of the cutters were too slow she would not clear the ground, and if it were too quick there would be a useless expenditure of power and machinery. Let it be remembered, that the large outer wheels B B are 3½ feet in diameter; that the beveled wheel has sixty teeth; and that the crank rod pinion has ten; and that the cutters have twelve inches of a cutting edge. The diameter of the wheels B B being 3½ feet or 42 inches, their circumferences are 131.94.678 inches. Every revolution of them will pass over nearly 132 inches of the ground's surface; but there being 10 teeth in the crank rod pinion, and 60 in the beveled wheel I, every revolution of the wheels B B will turn the crank pinion 6 times, and of course the crank as often. But every turn of the crank pinion gives two cuts, and each stroke of the cutters clears 12 inches of the ground, because they have twelve inches of a cutting edge; therefore, one revolution of the wheels B B gives 12 strokes of the cutters, and clears 12 times 12, or 144 inches of the surface of the ground. But one revolution of B B passes only over 132 inches of surface, therefore the cutters are calculated to cut in one revolution of B B 12 inches more than enough, that is, one inch each stroke. This, however, is

perhaps nothing more than is advisable to calculate upon, making allowances for the operation of the machinery, the partial dragging of the wheels, &c. &c.

Secondly. The collector (*l l*) must not move too slowly, lest it should retard the corn from falling upon the canvass, and it must not move too quickly, lest it should shake ripe grain. As before stated, it is 2½ feet in diameter, that is, 94.2477 inches in circumference. But one revolution of B B passes over 132 inches of surface, therefore, that the collector (*l l*) may just touch the corn, without bringing it back or retarding it from naturally falling back, it must make 1.4 revolution for every one that B B makes. Since there are six arms in (*l l*,) every arm will touch the standing corn at equal distances of 15.'7 inches. The pulley *m* makes six revolutions for one that B B makes; it is six inches in diameter, and the pulley *n*, upon the axle of *l l*, is nine inches; therefore *m* revolves 1.5 times for once that *n* turns round, and the collector (*l l*) revolves 4 times for once that the large wheels B B revolve. But $4 \times 94.2477 = 376.99$ inches, the space passed through by the circumference of the collector, while the machine moves forward only 132; the difference of which is 244.99, the space that the collector passes over more than the machine during one revolution of B B. Therefore, every inch of the corn is brought back 1.54 inch nearly by the collector, which is sufficient to insure its falling backwards upon the canvass; and yet it touches the corn so gently, that it is impossible that it can injure it in the smallest degree. A quicker and a slower motion, however, is advisable; which is easily given, by having two or three sheaves upon the pulleys *m* and *n*, and then by shifting the belt a different motion is produced. With regard to the canvass it is necessary that it should revolve as much as the ground passed over by the machine; that is, while the wheels B B make one revolution, or pass over 132 inches of the surface, 132 inches at least of canvass should pass over the rollers. W, as before stated, has 36 teeth, and × 18, so that the roller V will give two revolutions for one of *w*. But *w* revolves six times for one revolution of the wheels B B, hence the roller Y will revolve 12 times for every revolution of B B. The diameter of the rollers is 4 inches, their circumferences therefore are nearly 12.'56 inches, 12 revolutions of which will give 150.72 inches. As before stated, one revolution of B B gives only 132 inches, wherefore there is a preponderance of motion on the side of the canvass of 18.72 inches for every revolution of B B. This velocity is necessary to insure the canvass of clearing itself in all cases, and with a smart velocity the cut corn is laid down with a greater angle to the path of the machine. It may here be observed, that it is often found convenient to have the canvass to lay down the corn on either side of the machine, according to the direction from which the wind is blowing. This may be done with a double wheel at X, with a handle, in the usual method employed for reversing the motion of the rollers of the thrashing machine. It were desirable too, if possible, to have the canvass besmeared with a drying oil or gum, or some other substance

which would prevent it from contracting with moisture, as the slightest shower or dew of a morning contracts it so much as to render the implement useless until the corn is perfectly dry.

(No. 6.)

Augustus C. Brown appeared before me at the city of Cincinnati aforesaid, of the 7th day of October, in the year 1850, and he being by me first carefully examined, and cautioned, and sworn to testify the whole truth, deposes, makes oath, and saith as follows, viz:

1st question, for plaintiff. Are you acquainted with the parties to the two contracts here produced and shown to you, marked "A" and "B"? If so, state your knowledge of them, and identify them by your signature.

Answer. The paper marked "A" is a contract between C. H. McCormick and myself, for the manufacture of a quantity of reaping machines. It is dated the 19th of September, 1844. The paper marked "B" appears to be a contract giving certain rights of selling machines for reaping, made between C. H. McCormick and myself, and dated the 8th day of March, 1845. I have identified said papers by my signature.

2d question, for same. State whether you manufactured and sold reaping machines under said contract in the city of Cincinnati for the harvest of 1845? If so, how many?

Answer. I had reaping machines manufactured for the harvest of 1845, which were sold principally by C. H. McCormick's agents. There were nearly one hundred of said machines manufactured. I do not know the exact number. They were manufactured under the contract marked "A," above referred to.

3d question, for same. State whether C. H. McCormick furnished you with any reaping machine as a pattern by which to make reaping machines for the harvest of 1845?

Counsel for defendants objects to the question.

Answer. He left a machine with me as a guide to make other machines from, but subject to some small changes which were verbally agreed upon.

4th question, for same. In what did the reaping machines manufactured by you for the harvest of 1845 differ from the one furnished to you by C. H. McCormick?

Answer. I recollect the addition of the seat for the raker was one difference. I do not distinctly recollect the other changes, as I did not work on the machines myself. C. H. McCormick was a portion of the time present, and directed the workmen in any changes he wished made.

5th question, for same. How was the seat spoken of by you attached to the reaper made by you for the harvest of 1845?

Answer. As near as I can recollect, it was attached to or over the outside hound, extending back to or over the finger piece, and at the side of the main driving wheel.

6th question, by same. What was the position of the raker, when seated on said seat for the purpose of raking off the grain when said machine was cutting?

Answer. It was the intention for the raker to sit on the back end of the seat facing the falling grain, with his feet or one foot resting on the finger piece. There was a piece attached to the end of the finger piece, to extend it for the convenience of the raker to put his foot on it. This is one of the alterations made by McCormick which now occurs to me. The piece was to rest the left foot on. I am unable to say whether this piece was attached to all the machines made by me.

7th question, for same. Did putting on the seats by you for the machines for the harvest of 1845 require any change in the construction of the reaping machine furnished you for a pattern? (Objected to.)

Answer. I do not now recollect any changes that were required, unless that piece last mentioned, the foot piece.

8th question, for same. Could the raker stand on the seat put on the reapers made by you for 1845, and perform the raking off the grain when the machine was cutting?

Answer. I should not think he could conveniently. I have seen a man do it holding on in some manner to the reel post, or fastened to it in some way, I do not recollect exactly how. I suppose raking might be done in that way, but not conveniently. It might be done in a smooth place, but the raker would be liable to be thrown off in going over a rough place. He certainly could not make a business of raking in that way, standing on the seat. By standing on the seat I mean standing with one foot on the finger piece, and with the other foot resting on the seat, merely elevating himself from the seat and standing up. I do not mean standing with both feet on the seat itself.

9th question, for same. What was the result of these seats spoken of by you; did they answer the intended ends for which they were made?

Answer. Many complained of them; as near as I can recollect the objections to the seat generally were that the seat was not sufficiently elevated.

10th question, by same. Were you out in the harvests of 1845 and 1846 settling with persons who had purchased the reapers alluded to by you? Did you find any one who was using the seats for the purpose of aiding in raking off the grain from the machine when cutting? (Objected to as leading and improper.)

Answer. I was out in the harvests of 1845 and 1846 for that purpose. I did see the seat in use, with the machine in operation. In one case, I believe the seat was continued. I do not know positively more than one case. I do not know how long that was continued, but I believe during the harvest.

11th question, by same. State whether or not C. H. McCormick got you to make a reaping machine with a different kind of seat. If so, state when and in what that difference consisted.

Answer. He got me to make a machine for him early in June, 1845, with a seat more elevated, extending nearly over the main driving

wheel, which brought the raker nearer to the end of the reel. His position was the same as on the other seat, only that he was more elevated; he was brought nearer the reel, and his feet rested on the finger piece. The finger piece in this machine was extended to give more room to the raker for his feet. The seat was made so that the raker sat astride of it, with a cross piece in front to support him while leaning forward, (this is my recollection,) which enabled him to lean forward in nearly a standing position.

12th question, by same. State in what particulars, if any, the arrangement of the wheels was altered in the above machine from those made for 1845.

Answer. The wheel and gearing I believe was all the same. There might have been some difference in the arrangement, but I do not recollect.

13th question, by same. State whether you made reaping machines for C. H. McCormick for the harvest of 1847. If so, in what did they differ in construction from those made by you in 1845 as to the position of the seat and general arrangement?

Answer. I did make reaping machines for McCormick, I believe, in 1847. They were the same, or nearly the same, as near as I can recollect, as to the seat, as that last above described, the seat made in June, 1845.

14th question, by same. Could the seat as constructed on the machines made by you for C. H. McCormick for 1847, be put on the machine made by you in 1845, without a change of construction in the order of the machinery or wheels. (Objected to as leading and improper.)

Answer. I should think it might, but not so conveniently. I do not recollect what the changes were.

15th question, by same. Do you recollect the warrant yon the sale of the reapers for the year 1845 made by you? If so, state it?

Answer. The machines were warranted to cut 15 acres of wheat or other small grain in a day when properly attended, to save an average of a bushel of wheat to an acre of ground, that would be lost by ordinary cradling, and to be durable and not subject to get out of order.

16th question, by same. State the position of the seat in the machine of June, 1845, and the machine of 1847, relatively to the driving wheel.

Answer. I think the seat was nearly in a range with the wheel, and extending back of it in both machines.

Upon cross examination by counsel for defendants, the witness deposes further, as follows, to wit:

1st question. State what you mean by the raker's seat in the machines made by you for C. H. McCormick under the contract marked "A," being at the side of the driving wheel.

Answer. I meant that the board that constituted the seat extended alongside of the wheel and back of it.

2d question, by same. State the position of that portion of the seat

on which the raker sat relatively to the finger piece, driving wheel, and reel. I mean the seat in the machines made under contract "A."

Answer. The man sat a little outside the main driving wheel, and rather back of it, and at the end or near the end of the reel, and nearly over the large end of the finger piece.

3d question, by same. State in what respect there was any combination of the seat with the reel in the machines made by you for McCormick in 1847, and wherein that combination, if any there was, differed from those made under contract "A."

(Objected to on the part of plaintiff.)

Answer. I know not of any combination existing between the reel and the rest of the seat in either machine.

4th question, by same. In the seats made by you in the machines made under contract "A," in what direction was the face of the raker turned?

Answer. His back was turned to the direction in which the machine was going, and his face towards the platform.

5th question, by same. State as near as you can how many machines were built by you under contract marked A; when you commenced building them, and when they were finished.

Answer. I stated before it was nearly one hundred. The exact number I do not recollect. They were commenced some time in the fall or winter of 1844, and finished, I think, in the month of June, 1845.

6th question, by same. State when C. H. McCormick commenced selling or receiving orders for said machines, the names of any persons to whom he sold or received orders from, and the dates of said sales or orders?

Answer. His agents commenced as early as November or December, 1844, and continued through the winter and spring. I could not state the names of persons to whom he sold without reference to my books, except a few persons, viz: R. B. Mitchell, near Clarksville, Tennessee, from whom an order was received, dated 15th December, 1844. There were some 8 or 10 orders from that section of the country (some of which were filled and others were not) received during the winter, most of them, I think, in December. There was another agent who went north, (I think it was J. M. Hite,) who received a good many orders in March or April. D. G. Rose ordered and got one of the machines, I think it was in March or April, 1845. There were some 15 or 20 in that neighborhood.

7th question, by same. State whether C. H. McCormick sold or obtained orders for any of these machines. If so, when and from whom, if you know?

Answer. C. H. McCormick did not (to my knowledge) go out to receive orders, but sent his agents. I believe he received a few orders by letters, I do not recollect from whom, in the winter of 1844–'5, or spring of 1845.

8th question, by same. Who had the control of the sale of the machines manufactured by you?

Answer. C. H. McCormick.

9th question, by same. Who were the agents you speak of obtaining orders for said machines, and how did you obtain your knowledge of their agency?

Answer. They were J. B. McCormick and John M. Hite. I do not recollect now whether there were any other agents or not. I obtained my knowledge of their agency from C. H. McCormick.

10th question, by same. State the character of the orders received, and how they were regarded by C. H. McCormick?

(Question objected to by plaintiffs.)

Answer. The orders were regarded as sales.

11th question, by same. State when said machines were delivered to the purchasers above mentioned, and how paid for by them?

Answer. I cannot say definitely when they were delivered, but it was late in the season; they were generally delivered late, and some did not take them on that account. I think the machines for Tennessee were shipped in May; I think so. The machines for Laporte and vicinity, shipped to Michigan city, did not arrive there until after the first of July. The machines were paid for by the purchasers giving their notes, payable at future periods.

12th question, by same. Were all the machines manufactured under contract A. made with seats for the rakers?

Answer. Yes.

13th question, by same. Look at that part of circular marked C, hereto attached and made part of your deposition, which is not crossed out by pencil marks, and state by whom it was prepared, published, and distributed.

Answer. It was prepared by C. H. McCormick, and published by him, and distributed by himself, me, and by his agents, I suppose.

14th question, by same. State when this circular or handbill was published.

Answer. On or about the first of March, 1845.

15th question, by same. State whether the wood cut at the head of said circular represents the raker's seat which you built on said machines, and if not, what was the cause of the omission?

Answer. It is not represented. C. H. McCormick represented to me that these were old cuts that he had brought on from Virginia. He had not had time to prepare new ones in time for this publication.

16th question, by same. State whether C. H. McCormick, when he made the contract marked A, stated to you that the raker's seat had ever been used before, or whether he represented it as something untried, or what he said upon the subject.

(Objected to by plaintiff.)

Answer. I do not distinctly recollect what was, or whether any thing was said in regard to the seat at the time of making the contract. I recollect, when the subject of the seat was talked of between us, of

asking him whether it had been tried. His answer, as near as I can recollect, was, that he had tried it sufficiently to satisfy himself that it would be useful. I cannot say whether *that* it was at the time of making the contract, or afterwards. It was before the circular C was published.

17th question, by same. In your answer to the 10th question, on the cross examination, you state that the orders were regarded as sales. Please state more fully the character of said orders?

(Plaintiff objects to the question.)

Answer. The orders bound the drawer to take and pay for the machine on its performing according to the warranty, and C. H. McCormick represented that warranty as safe, and less than the machine was capable of doing, and therefore considered it a sale, and claimed his patent fee from me.

On re-examination by agent for plaintiff, deponent further says:

1st question. Were those orders of which you speak in writing?

Answer. Some of them were written, and others both printed and written.

2d question. By whom were they signed?

Answer. They were signed by persons ordering the machines.

By defendant's counsel. State whether said orders were solicited and received by C. H. McCormick and his agents, and whether the agents were authorized to receive a portion of the purchase money of said machines on their receiving said orders.

Memo.—Plaintiff objects to the question.

Answer. I have stated before that the orders were received by his agents, and solicited by them, and they were authorized to receive a portion of the purchase money on receiving the order.

Further deponent saith not.

AUGUSTUS C. BROWN.

(Opened in court, and filed Oct. 18th, 1850.)

(Art. A—No. 7.)

Articles of agreement made and concluded this 19th of September, 1844, between Cyrus H. McCormick, of the county of Rockbridge, and State of Virginia, of the one part, and A. C. Brown, of the city of Cincinnati, and State of Ohio, of the other part—witnesseth:

That the said McCormick, having a patent right for a reaping machine by letters patent bearing date the 21st June, 1834, which he wishes to introduce and supply the western country with, and which he recommends as being the best in use, and states that his published terms of selling said machine for the harvest of 1843 was to warrant them to cut 15 acres of wheat per day with ease, to save not less than one bushel of wheat to the acre of ground that would be lost by the ordinary mode of cradling, and to be durable and not subject to get out of order, at one hundred dollars each, at the manufactory.

That his warrant for this year's machines referred to the certificate of last year, and warranted that the machine should perform in the very best manner, be durable, and not subject to get out of order, and that he has never since objected to give the warrant of 1843; but, on the contrary, considered the latter warrant the strongest. Said McCormick states that under this warrantee he has, during the last two years, sold about eighty-nine machines, say 39 in 1843, and 50 in 1844; of the 39 sold in 1843, one purchaser refused to take one, (though said McCormick did consider him bound to take it by the contract,) another paid half the price, and asked another year's trial, expressing dissatisfaction only with the workmanship; a wheel of a third broke in consequence of bad metal, and the blade not being good gave some dissatisfaction, but it was paid for; all others were pleased and delighted with their machines. In relation to the operations of the machines sold this year said McCormick states, that he knows of no dissatisfaction on the part of any purchaser; all had not completed their harvest when he left Virginia; many were delighted with the machines. From these facts, and from said McCormick's own knowledge of the performance of the machines, he hereby states, that he considers the machines can be safely warranted, as above stated, if built of good materials and workmanship; and he hereby vouches for the truth of the above statements, and that the published recommendations of said machines have been correctly procured, and are true to the best of his knowledge and belief; a copy of which he hereby agrees to furnish the said Brown. Therefore, relying on the correctness of the above statements and recommendations, the said Brown hereby agrees to manufacture complete, of good materials, with an extra blade and pinion, as heretofore manufactured, warranted to cut 15 acres of wheat or other small grain in a day when properly attended, and to save an average of a bushel of wheat to the acre of ground cut over, that would be lost by ordinary cradling, and to be durable and not subject to get out of order, as many of said reaping machines, with two months' notice, (if necessary,) for the next harvest (not exceeding two hundred) as said C. H. McCormick can obtain orders for from good responsible persons, (orders to be sent to said Brown as obtained,) at seventy-five dollars each, delivered at the factory or steamboat landing in Cincinnati, payable in harvest, or not less than eighty dollars if sold on four months' credit from harvest; provided the said McCormick has the discretion to extend the time to five or six months in certain cases, where it would seem to be the interest of both parties to do so. Provided that said McCormick, in selling said machines, is *is* not to exact for himself, if cash in harvest, more than 20 dollars as a patent fee, and 5 dollars for commissions, or 26 dollars for both when on credit of 4 months or over; and in no case is said McCormick to contract for the payment of his fees and commissions earlier *that* the payment to said Brown, or on any other terms as regards the guarantee of the machines, under a penalty of one hundred dollars for each case; the said McCormick being equally bound with the said Brown in the warrantee of said machines, so far as his interest

is concerned. Said Brown to deliver said machines to such navigable parts as required, at an additional charge not exceeding the actual cost of transportation and insurance.

In consideration of the foregoing agreement, and under this contract, said McCormick secures to said Brown the exclusive right and privilege of supplying the State of Illinois for the next harvest with said machines, except the counties of McHenry, Lake, Henderson, Warren, and Knox, and of supplying any other territory not already disposed of until disposed of. It is further understood that, after the next harvest, this contract is to be extended to the following season, unless the said machine should fail to give good and general satisfaction in its operations; in either of which cases said Brown will be at liberty to discontinue it whenever such cases occur. Said McCormick further states, that the estimate of the expenses of building said machines at his manufactory, including an extra blade and pinion, has heretofore been 43 dollars, and that the cost at his manufactory will still not exceed that estimate; and this is one of the facts relied on by said Brown in this contract. And it is further agreed, that said McCormick shall make no other contract, by which said machine will be manufactured in Cincinnati for the harvest of 1845, and that no further contract is to be made with any other person or persons by the said McCormick to manufacture said machines in Cincinnati for the harvest of 1846, by which he will draw patent fees on sales; provided that said Brown shall continue to supply all demands as aforesaid. And it is further agreed, that no other contract shall be made to manufacture said machines for Ohio and Indiana during the continuance of this contract, without first giving said Brown the refusal of the same on the terms offered, whilst he supplies all demands as aforesaid. A failure at any time of either of the parties aforesaid faithfully to comply with the foregoing terms of this contract, will subject him to a forfeiture of it, and damages, if the failure be of a kind that could be avoided. Said McCormick is not to sell to persons without believing them to be safe; if sales be made by said McCormick's agent, he must believe said purchaser to be safe, otherwise good security to be required.

In witness whereof we, the parties, have set our hands and affixed our seals, this 19th day of September, 1844, as before mentioned.

C. H. McCORMICK, [L. S.]
A. C. BROWN. [L. S.]

Witness—SAMUEL N. SMALLWOOD.

(No. 8.)

It is hereby agreed between C. H. McCormick and A. C. Brown, parties to a certain contract, dated the 19th day of September, 1844, in relation to the manufacture of the said McCormick's patent reaping machine, that said Brown shall have the right of selling said machines in the State of Illinois, with the exception of the five counties reserved in said contract of September 19th, 1844, for the harvest of 1845 and 1846, and the right of selling in the States of Ohio and Indiana for the

harvest of 1845, (also the right of selling in Iowa, Missouri, (except the counties of Cooper, Saline, and La Fayette,) Arkansas, Tennessee, and Alabama, for the harvest of 1845, until otherwise disposed of;) provided that said Brown shall take the obligations of purchasers payable to himself or bearer, and shall keep a regular account of orders received, with the dates received, and shall pass every fifth order for a machine (according to dates) into the hands of the said McCormick or his agent, as directed, to be held as said McCormick's part of said accounts due by the patent fee of 20 dollars or 21 dollars (as the case may be) on each machine, as specified in said contract, until harvest, and at or after harvest the said parties shall either agree upon a division according to the value of the whole amount, so as to give said McCormick his patent fees, or said Brown to take all the accounts for collection, and to pay said McCormick his patent fee out of the price of each machine when collected, deducting one and a half per cent. therefrom for collecting, (as may best suit said McCormick's convenience.) Said Brown further binds himself, that if one hundred orders shall have been received for the reaper by the 10th day of April next, he will in that case build two hundred machines in time for harvest; and if orders for one hundred and seventy-five machines be received by the 20th of April next, he will build fifty more machines.

It is further understood, that agents already employed by said McCormick are to continue to receive orders to be supplied by said Brown before said Brown's orders are supplied, until the 23d of April, for which they are to receive the commission of five dollars each. It is further understood, that if said McCormick shall hereafter by himself, or by his agents, obtain orders under said contract, to be supplied by said Brown, the commissions of five dollars is to be allowed them; and if said McCormick shall obtain orders for the same without incurring the expenses of traveling on that business, a commission of two dollars and fifty cents each is to be allowed. Col. W. H. H. Taylor is to receive the commissions of five dollars for all orders he may receive from an advertisement by him in a Columbus agricultural paper. Commissions payable in all cases when collected. Said Brown is also to keep a correct account of all machines he may build and send off, and to whom consigned.

In testimony whereof the said parties have hereunto set their hands and affixed their seals, this 8th day of March, A. D. 1845.

C. H. McCORMICK, [SEAL.]
A. C. BROWN. [SEAL.]

Attest:
SAM'L N. SMALLWOOD.

(*No.* 9.)

Cincinnati Daily Enquirer—Extra.

Fig. 1. (Drawing of McCormick's reaper.)

Fig. 2. (Drawing of parts of reaper.)

Names of parts and directions for using "McCormick's Virginia Reaper."

Names.—B the tongue, C yoke, fig. 1; F D hounds, fig. 1; R Q G wheel posts, fig. 2; S wheel brace, fig. 2; J short keel post, fig. 2; A platform, fig. 1; A out joint piece, fig. 2; K small wheel piece, fig. 1; E E cloth posts, fig. 1; V the teeth, T the blade, L divider, fig. 3; K reel bearer, fig. 2; Y post to support the reel bearer, Z side board, fig. 2; H bow, fig. 1; I dividing iron, figs. 1 and 3; M main ground wheel, fig. 1; N master cogwheel, F pinion, fig. 2; Q beveled wheel, R fly wheel, X small ground wheel, figs. 1 and 2; U reel pully, W W reel shaft and ribs, fig. 1.

Directions.—As the reaper is numbered there will be no difficulty in its being put together by any mechanic, by simply attending to the numbers and observing to put the screws in as before, the notch in the head up, or when horizontal front. Large letters denoting the number of the machine, and small ones the corresponding numbers of the different pieces. The machine being put together, the following directions should be observed in operating it. A tin oil pot, such as is used for oiling other machinery, with a straight spout out of the top, will be necessary for oiling the blade, which must be oiled frequently along the back, by springing it forward with a flat pointed iron, so as to receive the oil. This must not be suffered to get dry; observe the grooves at the ends, and some other parts at the crank occasionally. The axles of the main ground wheel (which have no boxes) and other parts where iron and wood work together require oil very seldom, except the lower end of the crank, which rests upon a steel plate, and requires it more frequently. The pin in the end of the blade requires no oil except a little at the commencement; the small ground wheel to be kept as well oiled as its situation will admit. The cogs and lower end of the beveled wheel axle show for themselves, and should not get dry; for these, coarser oil is usually used, which may be kept in a tar can at the corner of the field or piece. The oil pot should be carried in a box made to fit it, on the front part of the hounds.

Eight and ten inch shifts.—It will be observed in putting the machine together, that by the two corresponding joints in the frame, one at the front, the other at the hind end of the hounds, the height of the cutting may be varied to 8 or 10 inch stubble; and wherever the variation takes effect, the figures 8 and 10 are respectively used as a guide for the same; and a further variation may be made by simply altering the joint at the front end of the hounds to 7 or 11 inches, as the case may be, as will be observed by other holes in the tongue. It will also be observed that varying the set of the machine varies the angle of the

crank to the blade, (the frame turning on its axis,) and makes it necessary to slacken the screw bolts in the driver, that the followers in the same working upon the crank may roll and thereby accommodate themselves to the change of angle, then tighten as before; avoid straining any part of the machine in putting it together; joints, &c., will meet without straining when right. The key in the driver is to be kept sufficiently tight, and a tack in the point to keep it in. The divider is presumed to be right, but can be made to collect more or less wheat, if found necessary; dividing iron, by its movable groove, to be raised or lowered to suit the height of the reel, and its point bent in to suit tangled grain, when necessary. The bow to be put further out or in, to suit grain more or less tangled, by the distance which the back end is made to pass through the platform.

The reel.—Its height is regulated altogether by the grain to be cut, being placed only so low usually as to operate well upon the short grain that may be in the piece to be cut; observing to have the two ends of equal height, or the band would not run fairly upon the pulley, which in the first place must be so placed upon the shaft that the band will work properly upon the iron pulley below. The left end of the reel shaft is usually kept about two inches behind a parallel with the blade; the lever puts the blade out of gear, when the machine runs without cutting; long end of the yoke next to the grain, and hole in it, turned up or down to suit high or low horses; ends fastened to the horses' hames with leather straps and buckles; off horse to be borne off by a stick. To prevent accidents, put nails in points of keys and at corners of screw taps; put pins in oil holes to keep out sand. Grind the blade on the smooth side when necessary.

Operation.—At the commencement of harvest, when the wheat is somewhat green and heavy, and the hands unskilled in the use of the rake, it must be expected that raking the wheat from the machine will be laborious, which, however, will become less and less so as wheat ripens and hands acquire the art. The raker must walk well forward and close to the machine, and, throwing his rake entirely across the platform with a limber action, must take a strong hold upon the heads of the wheat, and by a quick draw bring it off without halting, rather against and behind his left, never before him; the heads must be drawn round, so that the butts will be left pretty much towards the standing wheat, and very neatly, when understood. This direction was for walking, as heretofore; now that a seat is attached behind the wheels for the raker, this part of the labor it is thought will be very much facilitated.

Shove back the wheat upon the platform, after bringing off the sheaf, (or more,) so as to prevent a trail. In heavy wheat, the raker and rider have usually changed places; at times, in short or tangled grain, it may be found necessary to move it slightly upon the platform with the rake, before drawing it off, as a relief to the cutting. Horses should be kept close to the wheat; a third horse may be attached to the point of the tongue, if necessary, or horses changed to keep up good

speed. Machine, when not in use, should not stand in a springing state—especially long so; support the tongue and platform.

GUILFORD, CLARKE CO., *July 27th*, 1843.

DEAR SIR: Having finished our harvest, I have the pleasure to inform you that your reaper performed most admirably; and as its work is its best recommendation, I will say, in a few words, that with one reaper and one cradle (which was used only to cut the outside swaths, and around rock breaks, stumps, etc.) we cut 175 acres of wheat in rather less than 8 days, or 22 acres per day, and the work so well done as to make the horse-rake useless. Some of the wheat was very heavy, but not lodged, and some of it quite light, averaging, I think, 10 bushels per acre. The reaper is not perceptibly impaired by the service, and with care I have no doubt it will last many years. I am convinced its capacity is at least equal to five cradles, and that it has earned twelve dollars a day. This I will demonstrate thus:

The wages of a cradler are this year $1 25 per day; five cradles then would be worth, $1 25 each - - - -	$6 25
Five rakers saved at half-price, as is usual, or at 62½ cents each - - - - - - - - - - - -	3 12½
One hand for horse-rake saved, at 62½ cents - - - -	62½
To which may be fairly added the saving of the board of 9 hands less for the reaper than five cradles would require, and for which $2 would be a moderate allowance - -	2 00
	$12 00

In 8 days the reaper earned 96 dollars; if to this we add even half a bushel of wheat to the acre, which we have saved more than we could have done with the cradle, the reaper has more than paid for itself this harvest.

I am, very respectfully, your humble servant,

JAMES M. HITE,

Nephew of Ex-president Madison, and who afterwards bought 8 county rights.

TUCHAHOE, GOOCHLAND CO., *July 10th*, 1843.

Mr. MCCORMICK.

DEAR SIR: The cutting machine bought of you has succeeded beyond my expectations; in fact, I had no idea of getting through my wheat harvest in less than three weeks from the time I set in, but with the aid of the machine I finished in a fortnight. I think, when well attended to, it will cut from 18 to 20 acres wheat per day. Every farmer who sows fifty bushels wheat or oats would find your machine of great use in the saving of labor.

Yours, respectfully,

E. L. WIGHT.

P. S. My machine has paid for itself this harvest at $105, in cutting 100 acres of wheat, without being much worn. E. L. W.

(*Gen. Cocke's certificate.*)

I have used one of C. H. McCormick's reapers through my late wheat harvest, and find it has acted with entire satisfaction; saving the wheat well on bedded land, deeply furrowed, and that, too, whether working in the direction of the furrows or across them. I think there is a clear saving in the use of this machine over the best cradling of a bushel to the acre. It is a light draught for two horses, and will cut with ease at the rate of 15 acres a day; the land must be free of stumps or stones that rise 6 or 8 inches above the surface. While this machine was in operation, my fields were visited by a number of my neighbors—practical farmers—with universal admiration. I think it will prove durable, but would advise an extra blade.

Bremo, July 18th. JOHN H. COCKE.

N. B. Damp wheat is no obstacle to the operation. J. H. C.

To the Editors of the Enquirer.

Messrs. Editors: From the great interest which you take in agricultural pursuits, I am disposed to avail myself of your paper to give some account of Mr. McCormick's wheat-reaping machine. From accounts which I had seen of that machine, particularly one written by my valued friend, Doctor Braxton, of King William, I was induced to purchase one; and now, having tested its use in my late harvest, I will candidly state the manner of its performance. My first effort with the machine was on a small field of wheat of ten acres, belonging to my neighbor, Gen. Richardson. The most of the wheat was very rank, some of it very much tangled, by a portion of it lying flat on the ground. It had also ripened irregularly, so that while some was quite ripe, requiring immediate cutting, another portion was green, and consequently very heavy. In addition to this, the riders, the rakers, the proprietor of the machine, and all concerned in the operation, were all perfect novices in the business. Mr. McCormick, on delivering the machine, had promised to come to my house, and instruct me in its parts and use. But before his coming I was called on to do the job mentioned above; and it gives me pleasure to state that, notwithstanding our entire ignorance of the machine, and our total want of experience in its use, it performed not only to the satisfaction but to the admiration of some twenty or more gentlemen who were drawn there on that occasion.

In all instances, except where the wheat was flat on the ground, it did remarkably clean work, leaving scarcely a straw behind. I did not know till I was done, but was then informed, that I had been working against time, and that I had finished my job in seven hours and a half, which is just 45 minutes to the acre. The next effort of

the machine was on a field belonging to another neighbor, Mr. Ambrose Hutchinson; here also a considerable portion of the wheat was rank, and although much tangled but little of it was flat on the ground. Mr. McCormick was himself present on this occasion, and took the direction of the machine; and here I must in candor state, that if the machine did well at General Richardson's, it did much better at Mr. Hutchinson's. On this occasion there were present during the day some 30 or 40 gentlemen, who were attracted there by a contest with Mr. Hussey's machine, all of whom, as far as I heard, expressed themselves in terms of decided approbation in favor of Mr. McCormick's machine. On this day, having a good team and expert managers, the machine cut with great ease 17 acres, and was returned to my house some time before sunset. Here, too, the work was done with great neatness; as an evidence of which I will state, that it was the concurrent opinion of the farmers present that at least 30 bushels of wheat had been saved, which would have been lost had it been cut by the cradle. I think it also but just to state, that such was the favorable impression made on this day, I was offered by two gentlemen 10 dollars a day for the use of the machine in cutting their crops of wheat; but having got the machine for my own use, and not being able to accompany it myself, I was constrained to decline these tempting offers. My machine was next called into requisition to compete with Mr. Hussey's machine at Tree Hill, the splendid farm belonging to William H. Roane, esq. Here, too, it was under the personal direction of Mr. McCormick. I was present but a short time, and can only say, that whilst there it did its work with its usual neatness and expedition. Much time was lost in starting it in the morning and again at dinner, so that it cut, as I was told, only 14 acres on this day. Thus far my machine had mostly been engaged in competition with a machine invented by Mr. Hussey, of Baltimore. As to the merits of these two machines, or which in fact is the best machine, does not become me to say a word; but I must in justice to Mr. McCormick say, that on one occasion where I was present, viz., at Mr. Hutchinson's, there was appointed a committee, consisting of five of our most respectable and perfectly disinterested citizens, who, after carefully inspecting the operations of the two machines on the same field, did give the preference to Mr. McCormick's. This contest being now over and my oats ripe, I next applied the machine to the purpose for which I had bought it, viz., in cutting my own crop. And here I will remark that I raise no wheat; the only small grain crop that I cultivate is of oats, which I dispose of in the sheaf at the neighboring market of Richmond. It is, therefore, an object with me to save as much of the straw as possible. This year I had about 80 acres in oats, but owing to their having been seeded very late, and the season a bad one, they were uncommonly short. Mr. McCormick had the kindness to apply a small wheel to the machine, and to arrange it in other respects so as to fit it for cutting at least two inches lower than its ordinary height. Thus arranged I proceeded to take down my crop, which was done to my entire satisfaction. My ob-

ject being to secure the crop as it was cut, I did on no day tax the machine to the full amount of its powers, but stopped it until the binders nearly caught it. On the first day I employed six active young men to follow the machine, but I found that it constantly and rapidly gained upon them. I then increased the number to ten; these kept pace with it in binding, but then I had to stop when it became necessary to stock the grain. How many men the machine will keep employed in the whole process of binding and shocking, depends of course upon the thinness or rankness of the grain; but I think that even in my short oats it would have given ample employment to fifteen. Upon the whole I am much pleased with my machine, and I can confidently recommend it as a most valuable appendage to the labor-saving department of the farmer. I am pleased with it on account of the great expedition with which it operates. On no day, save one, has my machine been fully employed, and even then there was a loss of two hours or more at dinner time; and still it cut, as I have already stated, 17 acres, finishing its work some time before night. Now I need not tell the farmer how important, I may say how invaluable, speed is during the busy season of harvest; I have often seen my crop suffering, and yet was afraid to urge on my cradlers, lest from the heat and excessive draughts of cold water I should endanger their health, and even life itself; but here is a machine which requires no cold water, nor does it even utter a whisper of complaint on the score of *wheat* or fatigue, and yet it does the work of at least seven men. I am pleased with the machine further, because of the superior neatness with which it does its work; here the adage, "haste makes waste," does not hold good; where the grain stands erect, or where it is tangled but still erect enough for the reel to get hold of it, it cuts the whole, rarely leaving a stalk behind; in fact the field, after the machine has passed over it, presents the singular and beautiful appearance of having been not only raked but swept. I like the machine further, because it deposits the grain, not in handsful after the manner of the cradle, but in large masses of from 4 to 6 bundles in a place, thus greatly facilitating that tedious process of reducing the grain to bundles. Again, the temperance society has done much towards suppressing the use of ardent spirits, but I really think that McCormick is entitled to great credit on the same score, for his machine is as much a teetotaller as Delevan himself; but then it is somewhat of a Laplander, for when properly attended to it consumes a great deal of train oil. In fine, here is a machine that works with great expedition, despatching its business with great rapidity, and at the same time doing its work with a neatness and cleanness with which the cradle pretends no comparison, saving, as many think, grain enough in one crop to pay for itself, and all of this at comparatively little expense; it must, therefore, be a valuable machine.

J. H. TURNER,
President of the Agricultural Society of Richmond, Va.

I purchased one of Cyrus H. McCormick's reaping machines at the

commencement of my past harvest, and have cut with it 100 acres of grain, nearly all wheat, variously situated; some of it was upon steep land, and some of it in a damp state; some was heavy and some light; and in no situation did the machine fail to perform its work in a most superior style, cutting from 15 to 18 acres a day with ease, and saving me, I have no doubt, 100 bushels of grain, that would have been lost with cradles. In the labor and grain saved I do believe that my machine has already paid for itself, and as it has sustained no perceptible injury from its operation it must be durable; with care it cannot be otherwise, being used not more than two weeks in a year. The machine was seen in operation in my field by many of the neighboring farmers with universal delight.

WM. DUNLAP.

Augusta, July 28th, 1843.

(*Judge Stannard's certificate.*)

I purchased of Mr. McCormick two of his wheat-cutting machines, for the present harvest, at my plantation in Goochland, and *having* witnessed the operation of one of them during the present week. I have not made the experiment to ascertain how much it would cut in a day; I am, however, satisfied that it will cut without distressing the two mules, that being the team that suffices to draw it, from 12 to 16 acres, even though the ground be rolling and the wheat very rank. I am pleased with the operation of the machine, as it has fully equalled my most sanguine expectations, and I intend to get one or more for another plantation.

ROBERT STANARD.

P. S. In rank wheat I think the machine will cut as much as ten good cradlers.

June 19th, 1844. R. S.

This is to certify, that I have used two of C. H. McCormick's wheat-cutting machines through the present harvest, at Little creek, on James river, the farm of Judge Stanard, and have found them to operate in the most perfect manner throughout, without any interruption. The wheat is literally all saved by the machine if the binders do their duty; whether in hills or in deeply bedded land; whether straight or tangled, unless flat down. I cannot say with certainty how many acres can be cut in a day with it, but did cut about 30 acres in one day with the two, of heavy wheat on hilly ground. I think the machine equal to ten cradles in heavy wheat. These machines were seen in operation by many persons with entire satisfaction, and several of my neighbors have expressed a determination to purchase machines for the next harvest.

RICHARD SELATER.

Mr. McCormick.

Sir: I have used your patent wheat-cutting machine, made by Mr.

Jabez Parker, of this city, with entire satisfaction, cutting with great ease from 12 to 16 acres per day with one pair of horses, not fatiguing them in the least. I cut my crop of 80 acres with one blade, and which appears to be but little worn and as good as ever. Some of my wheat was heavy and leaning, and some I cut when it was wet; the machine managed it well, and cut very clean.

Yours, respectfully,
JOHN P. SCHERMERHORN.

Richmond, 18th June, 1844.

P. S. My wheat crop lying immediately on the turnpike near Richmond, there were a great many gentlemen called to see it; all were pleased and delighted with its beautiful operation, and some were desirous of getting machines for another year.

Yours, respectfully,
J. P. S.

RICHMOND, *June 19th*, 1844.

MR. MCCORMICK—SIR: I witnessed with much satisfaction last week, at my farm, the operation of the machine I bought of you for cutting wheat. It was managed without any difficulty or distress, either to the mules or man who raked off the wheat, and it cuts very clean. I consider myself more than compensated for the cost of the machine by the saving of wheat this harvest, besides another consideration of great importance, the saving of labor being equal to 8 or 10 cradles. With great pleasure I recommend your machine, and remain, yours,
CORBIN WARWICK.

P. S. I shall want another machine by next harvest.
C. W.

LYNCHBURGH, *Nov. 8th*, 1844.

DEAR SIR: I intended and ought to have written you immediately after harvest, respecting the performance of your reaper. When I first received it I had many doubts and misgivings as to its successful operation on my farm; but it only required putting it to work to clear my mind of all apprehension. During wheat and oat harvest I used it some 15 days without any difficulty. It cut uniformly clean and well, on an average, without pushing, from 14 to 16 acres a day. One day, when a little more activity was used, it cut 20 acres. Where the wheat or oats were tangled and fallen down, with a little care it cut and saved the grain admirably well. Many of the best farmers in the neighborhood of my plantation, near Amherst court-house, came to see its performance; all were highly gratified, and many would linger and follow it round the field to admire and witness its neat, rapid, and perfect performance. I think it would not be going too far to say that it is a perfect machine of the kind, and that *no* farmer whose plantation is clear of stumps and stones—for it does not much matter that the land

be rolling—and raises wheat or oats to any extent, should throw by his reap-hooks and cradles, and make use of your reaper to save his grain. If my wheat looks prosperous next summer, I may wish to procure another of your machines for a plantation near New Glasgow, in Amherst county. It was well you sent the extra blade; the first had a flaw in it, and gave way in a few days.

Respectfully, your obedient servant,

E. FLETCHER,
Editor of the Lynchburgh Virginian.

CYRUS H. MCCORMICK, Esq.

From the Rochester (N. Y.) Republican.

REAPING MACHINE.—We would call attention to the report of the committee on Mr. McCormick's reaping machine. We understand that another exhibition of McCormick's Virginia reaper has been had at Brockport, in the presence of about 200 farmers, which proved entirely satisfactory to every individual present. The machine cut about fifteen acres, commencing after 10 a. m., and on the evening of the same day the machine was sold to the owner of the field, and the right to make and vend the machine has, we learn, been purchased by Messrs. Backus, Fitch & Co., of Brockport, for the county of Monroe and Orleans.

Report.

We, the subscribers, having been appointed a committee to report on the operative qualities of Mr. McCormick's reaping machine, by a large number of gentlemen convened agreeable to notice in the public journals to see the operation, agree on the following points, as exhibited to us in its operations during the cutting of three acres of stout wheat on very uneven, stony, and stumpy ground. By timing the machine, without the knowledge of the driver, we found that it was cutting at the rate of 1 acre in 27 minutes, or about 2 acres per hour. It was easily driven by two horses, and operated by 2 men—one to drive the team and one to rake off the bundles—in which form the wheat was deposited on the ground as fast as 7 or 8 men could bind. The machine cuts the grain cleaner than we have ever seen it done by either cradle or sickle, even when considerably lodged and crumpled. The only possible drawback to its perfection as a reaping machine, in our opinion, is in the difficulty of depositing the grain in good form for binding. Whether from the necessity of the case, or from want of practice in the persons who attended to that duty, the committee are not prepared to say.

The machine seems to be well and substantially built, is simple in its construction, and easily repaired by the ordinary mechanics of the country; and, from the brief observations we have had of its operations, we are free to say, that we think it a great labor saving machine,

3232.

and from its small cost, in comparison with other machines, cannot fail of becoming an important instrument in all grain-growing regions.

L. B. LANGWORTHY,
JACOB GOULD,
HENRY W. WARD,
MOSES LONG,
H. K. JEROME,
H. HUNTER, and others.

Rochester, July 17th, 844.

From the Monroe Advocate.

MR. EDITOR: Having been the first, I believe, to test the operations of McCormick's wheat-reaping machine in this State, it has so far exceeded any anticipations that I could have had in relation to it, that I feel it to be due to the public, as well as the inventor of so valuable an article of husbandry, to give, through the medium of your valuable journal, a short account of the result of my experiment. This machine was brought to this county almost two months ago from Virginia, the residence of its inventor, by Mr. Jacob Bender, then from the State of Maryland, and a stranger among us, who had purchased the patent right to supply the county with it. Mr. Bender requested us to make a trial of the machine, which I readily consented to do from his representations of its success in Virginia, as well as the numerous testimonials in his possession to that effect, but still, I confess, with little confidence that it could in practice answer a valuable purpose, as I had considered the thing impracticable. I therefore take the more pleasure in bearing testimony to its admirable performance, after having cut my harvest of wheat of almost 80 acres with it. The only difficulty I have met with in the use of the machine was at the commencement, in the delivery of the wheat. Without some practice, it was difficult, indeed impossible, for the hand attending the machine to rake the wheat from either with ease to himself, or so as to be in a good situation for binding; but with a day or two's practice this difficulty was entirely removed, the wheat was taken off with great ease, and so completely deposited in heaps for binding that at least one-third the labor of ordinary binding after a cradle was saved. I cut my crop in less than four days, and the work done was so superior to common cradling, that I am satisfied at least a bushel of wheat to the acre was saved. No sickle can rival the neatness of its operation. The machine is simple, strong, and durable; not liable to get out of order. It is an easy draft for two horses, and is attended by a man to rake and a boy to ride. My land of course was not prepared for such a machine, and on a portion of it I found that no roughness of surface, grass, weeds, tangled wheat, or even small sprouts, obstructed its operation. It passes over any thing that is below the blade, which was 11 inches high, and may be more or less, and leaves all smooth behind it. A considerable number of farmers came to see the operation of the reaper during my harvest, and were uniformly delighted with it; many ex-

pressed a desire to get machines for the next harvest. It is hardly necessary to add that I purchased the machine, and feel no hesitation in recommending it to the public, believing it to be to the agricultural community, and particularly to the northwestern country, one of the most important inventions of the age.

THOMAS CALDWELL.

Raisonville, Monroe co., Michigan, July 29th, 1844.

From the Southport, Wisconsin, American.

McCormick's reaping machine.

Our fellow-citizen, John W. McCoy, esq., during his stay at Washington the past winter, became acquainted with Mr. McCormick, the inventor of a machine for cutting wheat by horse power. At the solicitation of Mr. McCormick, Mr. McCoy consented to have one of the machines forwarded to him, for the purpose of testing it during the present season; and, if it answered expectations, introducing its use among the farmers of the Territory. Since the commencement of the harvest this machine has been used in several wheat fields, in the southern part of this county, and with such entire success that no one who has seen it can doubt of its fully answering that purpose, and of its rapidly superseding every other means now in use for cutting grain. We took an opportunity, on Thursday last, of witnessing the operation of the reaper in the field of Mr. Stevens, of Pleasant Prairie, and we must say that we never saw a machine that so fully answered all that was promised by the inventor as this. It is drawn by two horses, and moves as rapidly as the horses will walk; requires one man to rake off the grain, which is deposited in bunches suitable for forming a single bundle, another boy or man to drive the team; cuts 6 or 7 feet in width, and takes up the grain, whether it be straight, lodged, or crinkled, with far greater cleanness and evenness than can be done with the cradle or sickle. This machine will cut from 15 to 20 acres per day, and has, in some cases of experiment noted in our exchanges, done even more than the last number mentioned. The price which is usually demanded for cutting by the machine is 75 cents per acre, leaving the wheat ready for the binder; which is assumed to save one-third the labor of raking and binding after a cradle.

Cost of cutting and raking 16 acres by cradle—

8 men, cutting 2 acres each	$8 00
Half labor of 8 men, raking and binding	2 66
One bushel per acre lost grain saved by machine, reckoned at 4s. per bushel	8 00
Board of men	2 00
	$20 00
16 acres by machine, at 6s. per acre	12 00
Difference in favor of machine	$8 00

This we think a fair estimate of the economy in the use of this machine, not including the labor and inconvenience in procuring the requisite number of hands to accomplish the work with the same despatch that it can be done by the use of the reaper. We find a number of notices in our exchanges of trials of this machine before committees of agricultural societies, &c., which, as we conceive the subject one of great interest to our farmers, and the introduction of the machine destined to work a great change in the method of harvesting, we shall give it in our next.

Virginia reaper.

We, the undersigned, committee on agricultural implements, having been called on to examine the reaping machine of C. H. McCormick, esq., of Virginia, have carefully done so, and as far as we can judge, without seeing it in actual operation in cutting, are entirely satisfied of its great utility. Not having had an opportunity to see this machine operate, we were careful to examine a variety of testimonials in the possession of Mr. McCormick, from gentlemen of the highest respectability in Virginia, New York, and most of the western States. From these testimonials, together with the apparent simplicity, yet ingenuity, strength, and efficiency of the machine, we confidently recommend it to the patronage of our brother farmers, and the west generally, believing that when it proves to have been completely established in Virginia, it must be found of immense importance to the west. The machine exhibited at our meeting was sent round by New Orleans, it seems, to be used in our last harvest, as were others in other western States, but was delayed on the way, and did not arrive until too late. A further evidence of the high estimate which is placed upon this machine is, that Mr. McCormick has made an arrangement with A. C. Brown, esq., of Cincinnati, a well known and extensive manufacturer of this city, for the manufacture of two hundred machines, or more if the demand requires it, to be warranted to cut 15 acres of wheat per day with ease, to save a bushel of wheat to the acre, that would be lost by the ordinary mode of cradling, and to be durable and not likely to get out of order, at 100 dollars at the manufactory at harvest, or 160 dollars at 4 months. If these things be performed, the reaper will more than pay for itself in cutting a single harvest, therefore there can be but little risk in trying it. It is contemplated to send machines from Cincinnati into the States of Illinois, Indiana, etc. We cheerfully award to Mr. McCormick a certificate.

All of which is respectfully submitted.

S. CLOON,
JOHN ROSS,
A. S. HAGERMAN,
JAMES SAMPSON,
Committee.

JANUARY 27th, 1845.

Several years ago I purchased of Mr. Cyrus McCormick one of his reaping machines, being one among the first he sold. I had used it previous to last year with advantage. Last year he had it repaired for me, and I used it to great advantage in cutting my last harvest. Its performance last year has been fully equal to my most sanguine expectations, and I believe farmers generally would find it to their advantage to obtain Mr. McCormick's reaping machine; the great saving of labor, and the neatness in which the grain is saved, would soon reimburse for the cost of the machine.

E. H. SMITH.

(From the Richmond, Va., Whig and Enquirer.)

McCormick's reaper.

The undersigned returned a short time since from the northwestern country, having left Virginia in the latter part of June last to attend to the introduction of his reaper in this vast region. We had machines in operation during the last harvest in western New York, Michigan, Wisconsin, Illinois, and Missouri, and he has the satisfaction to say without a failure, and with the most perfect success. Machines were sent also to Ohio, Indiana, Kentucky, and Tennessee, (by way of New Orleans,) but they did not reach their destination until too late for harvest. After succeeding, by sale and contract, in making arrangements for the extensive introduction of the reaper in most parts of this great country for the next harvest, the undersigned returns to the "Old Dominion" with cordial greeting; and with his acknowledgments for the liberal patronage with which he has heretofore been favored, and promising to strive more and more to merit it, by building improved and superior machines of best materials, he announces again to the public that he continues to manufacture his reaper on the same terms as heretofore, viz., $100 at the manufactory, or $105 at Richmond, at 4 months from harvest, including an extra blade, (both warranted good,) &c., warranted in every respect, as usual. At $110 the reaper can be sent to most parts of Maryland, and some parts of Pennsylvania. From the almost universal satisfaction, not to say delight, which has been given by this machine, and from its having been diffused over most parts of Virginia, the undersigned could not very well publish all the certificates of its satisfactory performance which he could obtain, and cannot suppose it necessary to publish many in addition to those which have already appeared in the Richmond papers. Its reputation has been sustained, increased, and greatly extended by another year's test; and it is believed that no new and important labor-saving machine has ever been introduced into this country with less difficulty, and which has given more general and lasting satisfaction to purchasers than this since offering it to the public. Many large farmers, after trying one, ordered others immediately; and many stating that, in cutting a single harvest, their machines had paid for themselves, or would do so in cut-

ting 100 acres of wheat. A good number of certificates were published in the Richmond Whig and Enquirer about the close of last harvest, of which were those of Judge Stanard, Corbin Warwick, esq., William Galt, esq., and Col. T. J. Randolph, each of whom expressed an expectation of wanting another machine for the next harvest. The three first have since determined to get machines, the latter not since heard from; and a considerable number have been procured since, a few of which are hereto subjoined. The right to supply with the reaper the south side of James river, and of the Blue Ridge, and a few counties west of Roanoke, has been sold to Col. M. Tutwiler, of Fluvanna; Henrico, Charles City, James City, New Kent, and Gloucester counties have been sold to Jabez Parker, esq., of Richmond; Clarke, Warren, Frederick, Berkely, Jefferson, Fauquier, Loudoun, and Fairfax counties have been sold to James M. Hite, esq., of Clark; and Washington county, Md., to Mr. Middlecauff; all of whom, so far as known to the undersigned, succeeded well in the last harvest with the reaper. Philip St. George Cocke, esq., of Powhattan, used one of Tutwiler's in the last harvest, and stated to the undersigned since, that he and all who saw it operate were pleased, and that he had determined to order another for the next harvest. James M. Hite, esq., of Clark, has written the undersigned that he succeeded well, and has ordered 100 blades for the next harvest; and Mr. Parker expects to advertise shortly, and publish certificates from his district.

EGYPT, *Rockingham co., Oct.* 31, '44.

I believe I have the reaping machine disposed of by Mr. Cyrus H. McCormick. I have used it every harvest since 1840. It has invariably, up to this time, done as well as I could wish, and to all appearances is as good now as when I got it. I have also seen his improved machines, which I greatly prefer to mine, because I think the frame work of his present machines, and iron instead of wooden fingers, greatly preferable to his first make of machines.

ABRAHAM SMITH.

(*Col. Peyton's certificate.*)

ROANOKE, *Dec.* 3*d*, 1844.

DEAR SIR: In reply to your inquiry, as to the operation of your machine during the past and third harvest that I have used it, it gives me great pleasure to state that, until near the close of my harvest, which was a very long one, it cut perfectly, and from the greater familiarity of my slaves with its management gave us less trouble than heretofore, and confirmed more fully my judgment in its favor as a practical and valuable improvement, which ought to be introduced wherever good farming is regarded. For myself, I would return to the use of the cradle now with as much reluctance as I would before the introduction of your machine have abandoned the cradle for the reaping hook.

Respectfully, W. M. PEYTON.

CYRUS H. MCCORMICK, esq.

(*Gen. Braxton's certificate.*)

CHERICOKE, KING WM., *July* 15*th*, 1844.

DEAR SIR: It gives me pleasure to state that I have now finished my third harvest with your reaper, and every year's use of it gives me a higher opinion of its utility as a labor-saving implement; and I have no doubt that every year's experience with it, as persons become more familiar with its use, will add additional value to it in the estimation of all who use them. Wishing you a rich reward for your ingenuity, I am, very respectfully, your obedient servant,

CORBIN BRAXTON.

C. H. MCCORMICK, esq.

CARLTON, 17*th July*, 1844.

DEAR SIR: In reply to your inquiry, I take pleasure in expressing my entire satisfaction with the performance of your reaper, this second year of its trial on my farm. I confined its operations to the ranker portions of my crop, when it left nothing to be desired, as to the rapidity and completeness of its work. With a relay of horses and hands, I have no hesitation in believing it would cut on smooth surfaces at least 20 acres a day. On land much of which was on high beds, and often so soft and sandy as to occasion frequent stoppages from the wading of the main wheel, I am sure that I was enabled in this way to cut with ease, in heavy wheat, at least 17 acres in one day. After grinding out a few small gaps in the blade, made during the last harvest by the sassafras through which it passed, it has cut throughout my crop this year without the necessity of sharpening. In the spongy and tenacious soils of this vicinity, there is an obstacle to its use, not perhaps known to you, arising from the effects of heavy rains. In such cases it becomes necessary to await the drying of the earth, in order to avoid the clogging of the wheels to such an extent as to obstruct their revolution. This, however, constitutes no objection to your machine; it is a quality of the soil that with equal inconvenience impedes even the steps and augments the toil of the common cradle. To the general introduction of your admirable machine nothing is wanting but a neater system of husbandry and greater success in the growing of wheat.

Most respectfully, yours, &c.,

ALEXANDER RIVES,
Brother of the Senator.

C. H. MCCORMICK, esq.

EACINE, KING WM. COUNTY, *August* 31*st*, 1844.

CYRUS H. MCCORMICK, esq.

DEAR SIR: I used the reaper I purchased of you last year in securing my harvest this summer. It operated to my entire satisfaction, both on the wheat and oats. I am unprepared to draw a comparison between its operation and the cradle, as I have been a farmer but two

9235.

years, and have used the reaper each year. With 6 or 7 hours' work of the reaper I found active employment for 11 hands the entire day, securing the wheat or oats cut down.

In haste, very respectfully, &c.,

ROBERT W. TOMLIN.

UNION HILL, *Dec.* 1*st*, 1844.

I used Mr. McCormick's reaping machine through the harvest of 1844, and it gives me pleasure to say that all my former expressed opinions with regard to its value to the farming public are more than confirmed. A fair trial of the machine is all that is necessary to insure its general introduction.

MAYO CABELL.

ALBEMARLE CO., LEIGH, *Oct.* 30*th*, 1844.

McCormick's machine has been in use two seasons on our farm. We are more and more pleased with it, and advise every one who has a level farm, and who has a chance for 500 bushels of wheat, to get one. Judge Leigh saw it at work here, and thought it did its work perfectly. It must come into general use soon.

W. W. GILMAN.

LOUISA, *June* 24*th*, 1844.

I have used Mr. C. H. McCormick's reaping machine nearly through the second harvest, and am, if possible, more pleased with it in the second harvest than I was in the first. I have cut wheat that it was more difficult to cut than last harvest, and it cut well. I think it will cut, tolerably attended, 15 to 20 acres per day.

C. VALENTINE.

EVERETTSVILLE, ALL. COUNTY, *Dec.* 10*th*.

DEAR SIR: I promised some time ago to give you the result of my trial of your reaper during my last harvest. I purchased your reaper just in time to cut the wheat crop of 1843. I used it then chiefly on my low grounds; where the wheat was tall and thick it cut remarkably well; during the last harvest I cut nearly the whole of my crop of 240 bushels, seeded, as well that on low land as on the hills. Your reaper afforded entire satisfaction, cutting very clean, so that the raker was enabled to draw it out in bundles more easily managed by the binder than when cut with the ordinary cradle. Many of my neighbors saw it, and all were well pleased with it. Your reaper cuts with ease from 15 to 20 acres per day, and I am satisfied that the saving, when the wheat is good, is about one bushel per acre. I have used your reaper now two years, and no repairs of any kind have been found necessary.

Respectfully, BEN. H. MAGRUDEN.

This is to say, at the request of Mr. C. H. McCormick, that Dr. Geo. M. Brinker and myself purchased and used one of his reapers last harvest, which gave great satisfaction. Dr. B. cut his crop of about 800 bushels with it in the most complete manner imaginable. A portion of my crop was remarkably short from dry weather, that I cut it with cradles; but wherever the wheat was long enough to be operated on by the machine, its performance was admirable. No part of the reaper gave way in our hands, and it seems durable. Mr. Isaac Bowman and George F. Hupp purchased and also used reapers in cutting a part of their crop, and was well pleased with their performance.

SAM. KENDRICK.

Strasburg, Shenandoah co., Va., Jan. 25th, 1845.

I, as agent for Dr. J. M. Morris, purchased and have used in the present harvest two of C. H. McCormick's reapers, and am entirely satisfied with their operations, having come fully up to his representation of them.

BEN. PERKINS.

CINCINNATI, *March 1st*, 1845.

The undersigned now respectfully offers his patent reaper to the farmers of the western States generally, and in such a manner, he flatters himself, as to claim general attention. He did not until last harvest go out of his native State (Virginia) with his machine, preferring to introduce, complete, and establish it at home before taking it abroad, which has, after several years' labor, been triumphantly effected in all wheat-growing parts of the State, of which he herewith exhibits unquestionable testimonials from many of the most distinguished men and agriculturists of the State. But being aware of the many impositions practised upon the public by means of certificates, and consequently the little credit usually attached to unknown certificates from abroad, the undersigned, in introducing his machine into other States, did not think proper to rely upon any evidence of its performance short of its actual operation, and accordingly, as also appears, had it introduced into several of the northwestern States during the last harvest. Messrs. Backus, Fitch & Co., of Brockport, New York, where a machine was used through the last harvest, purchased the exclusive right to supply two counties, and contracted to build not less than 40 machines for four other counties for the next harvest. One county right was sold in Michigan, where a machine operated. Four county rights were sold to J. W. McCoy & Son, of Southport, Wisconsin, where one operated. And Henry Bear, esq., of Cooper county, Missouri, who had purchased a reaper and used it in his harvest, contracted to manufacture 30 machines for three counties for the next harvest, paying a patent fee of $20 each. The undersigned is desirous at once to introduce this machine extensively in the western States, and has contracted with one of the most extensive machine manufacturers in the city of Cincinnati, (A. C. Brown, esq.,) for the manufacture of 200 of them, which are now under way, on terms that cannot be unacceptable to the farmers; and

3 or 400 may yet be manufactured if orders be forwarded soon. The undersigned can say that, in the whole course of his operations with the reaper in the last harvest, there was not an interruption of fifteen minutes from derangement of the machine. Now when it has succeeded thus in Virginia and elsewhere, on rough, hilly lands and deeply bedded low grounds, (James river flats,) with slave labor and under an overseer's management, ought it not to succeed in the great west, where none of these disadvantages are to be found? But it would seem that this question need not be asked, when it is announced that the farmer will not be required to incur any responsibility in the matter; that the machine will be guarantied to be made complete, of good materials, with an extra blade, (to be prepared for any accident that by possibility might take place,) to cut 15 acres of wheat or other small grain in a day, when properly attended, (more than this it will be seen from certificates may be cut on smooth land,) to save an average of a bushel of wheat to the acre of ground that would be lost by ordinary cradling, and to be durable and not subject to get out of order, at $100, payable in harvest, or $106, at 4 months from harvest, deliverable at Cincinnati steamboat landing, or delivered at any navigable point at an additional charge, not exceeding the actual cost of transportation and insurance, which will be but nominal, weighing but 600 pounds. Now if all be performed that is warranted—and does not the evidence herein presented make safe the guarantee?—the reaper will certainly, as estimated by others, more than pay for itself in cutting a single harvest; if not performed, no sale. Can a single farmer, whose situation suits the operation of the machine, (whose lands are measurably clear of stumps and large stones—a few can be avoided in the operation,) hesitate to try one on these terms? And where farms and crops are small, two, three, or more can join in the purchase of a reaper, or one can, after cutting his crop, cut for his neighbors, so as still to make the reaper do more than pay for itself. Since the last harvest a seat has been added to the reaper, for the hand who attends it to ride upon, which will very much facilitate that part of the labor. Two horses to pull the machine, a boy to ride and drive, and a hand to (ride) and rake the wheat from it, complete the operation of cutting and delivering the wheat in complete order (in heaps) for binding. Persons wanting the reaper should forward their orders without delay to insure their being supplied, as many have already been received by agents and otherwise. Transportation will be trifling to almost any part of the west. Orders addressed to the manufacturer, A. C. Brown, will receive prompt attention, and by writing to him, a cut with a description of the machine can be forwarded. The undersigned will be occasionally in this city, and is now at the Denison House.

C. H. McCORMICK.

(*Col. Randolph's certificate.*)

I purchased one of Mr. McCormick's reaping machines and used it during the present harvest, 1844, on smooth land and rank wheat. Its

performance equaled my most sanguine expectations. The cutting could not be surpassed for neatness and despatch. The saving of labor will be in proportion to the heaviness of the crop. In very heavy wheat it may be made to do the work of 10 cradles, in lighter wheat 5. The saving of grain in all cases over the cradle very great. On smooth land and careful getting up, the usual loss will be almost entirely avoided. The machine is simple, strong, and durable, and not liable to get out of order, and if kept clear of stumps and large stones will be of great endurance. My design is to get an additional one for the next year.

TH. JEFFERSON RANDOLPH.

Mr. C. H. McCormick—Sir: The reaping machine which I purchased from you I have used in cutting my low ground wheat, and it has performed to my entire satisfaction. I did not measure any one day's cutting, but am perfectly convinced that it will do the work of not less than ten cradles, and cut the wheat very clean. I am so well satisfied with the performance of this, that I will take another machine from you next harvest. WILLIAM GALT.

Glenarrow, 22d June, 1844.

Having used Mr. McCormick's wheat-cutting machine in my harvest this season, I take pleasure in saying that I am much pleased with its operation, as to the quantity it will cut and the great saving of wheat. I consider it equal to the work of 8 or 10 cradles. Every part of the machine seems to be very substantially made and durable, having had no difficulty in repairs, &c., during my harvest.

J. M. STRANGE.

Oak Hill, June 22d, 1844.

Greenville, August., *Nov.* 15, 1844.

I purchased one of Mr. C. H. McCormick's reaping machines, and cut my last harvest with it without the least difficulty occurring in its operation, and with entire satisfaction. I estimated the saving of labor to me by the use of it at about five dollars per day, and have no doubt that it saved a bushel of wheat to the acre. I could not have been better pleased with the machine. ISAAC HALL.

Oak Ridge, *Dec.* 6, 1844.

Dear Sir: I received a few days ago your letter of the 4th, requesting me to state how I liked the reaping machine you furnished me last harvest for my Albermarle estate. I have to say I was so well pleased with it, that I have ordered another for the next harvest for my Nelson estate.

Wishing you the success which I think your reaping machine merits, I am your obedient servant,

ROBERT T. RIVES,
Father of the Senator.

Mr. C. H. McCormick.

I purchased and used one of McCormick's reaping machines last harvest, and though the representations in its favor had led me to form very high anticipations of its performance, I was not at all disappointed on trial. Its execution in good wheat was perfect, literally leaving nothing behind it, and in inferior wheat quite as good as that of the cradle. I estimated it to cut about 17 or 18 acres a day. I had to slacken the pace of the horses to accommodate an unpractised raker, but with the experience of the last harvest and the improvement of the raker, I confidently expect to reap over 20 acres in the next harvest.

GEO. RIVES,
Brother of the Senator.

December 4th, 1844.

AUGUSTA C'TY.

I purchased one of Mr. Cyrus McCormick's reapers, with which I cut my last harvest, and at his request take pleasure in adding my testimony to the numerous testimonies that have been presented to the public in favor of this valuable machine. As the public have already been so extensively and so particularly advised in relation to the operations of this machine, without going into detail I deem it sufficient to say, that it has not been over estimated; that in cutting 100 acres of good wheat, when the labor and grain saved are fairly estimated, it will pay for itself. I believe mine has done so.

Given under my hand this November 1st, 1844.

WASHINGTON SWOAPE.

The subscriber would respectfully urge the importance to all who are wanting the reaper for the coming harvest to send in their orders without delay, that they may not be disappointed in getting the machine in time, as it is already apparent that the demand will be great, and consequently if orders be delayed until late in the season it may be impossible to fill them in time. The subscriber would also respectfully inform the farmers of the west that he has made arrangements for manufacturing

Gatling's patent Seed-planting Harrow.

A newly invented and very valuable machine.

This will be found a great labor-saving machine, as it performs the triple work of harrowing, sowing, and covering, all at the same time, and in a much better manner than done in the ordinary way. It sows wheat, oats, hemp, and all kinds of small grain and seed, in the best manner, and can be made to sow broadcast, or in drills; but the latter mode, as to wheat, is far preferable, as experience has proven that wheat planted in drills will produce from five to ten bushels more to the acre than when broadcast. In England wheat is invariably planted in drills, and large crops obtained; and the rice planters at the south all drill their rice, which adds at least one fourth to the crop. Dr. Noble, a distinguished agriculturalist of Delaware, "has

performance equaled my most sanguine expectations. The cutting could not be surpassed for neatness and despatch. The saving of labor will be in proportion to the heaviness of the crop. In very heavy wheat it may be made to do the work of 10 cradles, in lighter wheat 5. The saving of grain in all cases over the cradle very great. On smooth land and careful getting up, the usual loss will be almost entirely avoided. The machine is simple, strong, and durable, and not liable to get out of order, and if kept clear of stumps and large stones will be of great endurance. My design is to get an additional one for the next year.

TH. JEFFERSON RANDOLPH.

Mr. C. H. McCormick—Sir: The reaping machine which I purchased from you I have used in cutting my low ground wheat, and it has performed to my entire satisfaction. I did not measure any one day's cutting, but am perfectly convinced that it will do the work of not less than ten cradles, and cut the wheat very clean. I am so well satisfied with the performance of this, that I will take another machine from you next harvest. WILLIAM GALT.

Glenarrow, 22d June, 1844.

Having used Mr. McCormick's wheat-cutting machine in my harvest this season, I take pleasure in saying that I am much pleased with its operation, as to the quantity it will cut and the great saving of wheat. I consider it equal to the work of 8 or 10 cradles. Every part of the machine seems to be very substantially made and durable, having had no difficulty in repairs, &c., during my harvest.

J. M. STRANGE.

Oak Hill, June 22d, 1844.

Freenville, August., *Nov.* 15, 1844.

I purchased one of Mr. C. H. McCormick's reaping machines, and cut my last harvest with it without the least difficulty occurring in its operation, and with entire satisfaction. I estimated the saving of labor to me by the use of it at about five dollars per day, and have no doubt that it saved a bushel of wheat to the acre. I could not have been better pleased with the machine. ISAAC HALL.

Oak Ridge, *Dec.* 6, 1844.

Dear Sir: I received a few days ago your letter of the 4th, requesting me to state how I liked the reaping machine you furnished me last harvest for my Albermarle estate. I have to say I was so well pleased with it, that I have ordered another for the next harvest for my Nelson estate.

Wishing you the success which I think your reaping machine merits, I am your obedient servant,

ROBERT T. RIVES,
Father of the Senator.

Mr. C. H. McCormick.

I purchased and used one of McCormick's reaping machines last harvest, and though the representations in its favor had led me to form very high anticipations of its performance, I was not at all disappointed on trial. Its execution in good wheat was perfect, literally leaving nothing behind it, and in inferior wheat quite as good as that of the cradle. I estimated it to cut about 17 or 18 acres a day. I had to slacken the pace of the horses to accommodate an unpractised raker, but with the experience of the last harvest and the improvement of the raker, I confidently expect to reap over 20 acres in the next harvest.

GEO. RIVES,
Brother of the Senator.

December 4th, 1844.

AUGUSTA C'TY.

I purchased one of Mr. Cyrus McCormick's reapers, with which I cut my last harvest, and at his request take pleasure in adding my testimony to the numerous testimonies that have been presented to the public in favor of this valuable machine. As the public have already been so extensively and so particularly advised in relation to the operations of this machine, without going into detail I deem it sufficient to say, that it has not been over estimated; that in cutting 100 acres of good wheat, when the labor and grain saved are fairly estimated, it will pay for itself. I believe mine has done so.

Given under my hand this November 1st, 1844.

WASHINGTON SWOAPE.

The subscriber would respectfully urge the importance to all who are wanting the reaper for the coming harvest to send in their orders without delay, that they may not be disappointed in getting the machine in time, as it is already apparent that the demand will be great, and consequently if orders be delayed until late in the season it may be impossible to fill them in time. The subscriber would also respectfully inform the farmers of the west that he has made arrangements for manufacturing

Gatling's patent Seed-planting Harrow.

A newly invented and very valuable machine.

This will be found a great labor-saving machine, as it performs the triple work of harrowing, sowing, and covering, all at the same time, and in a much better manner than done in the ordinary way. It sows wheat, oats, hemp, and all kinds of small grain and seed, in the best manner, and can be made to sow broadcast, or in drills; but the latter mode, as to wheat, is far preferable, as experience has proven that wheat planted in drills will produce from five to ten bushels more to the acre than when broadcast. In England wheat is invariably planted in drills, and large crops obtained; and the rice planters at the south all drill their rice, which adds at least one fourth to the crop. Dr. Noble, a distinguished agriculturalist of Delaware, "has

tried the relative advantages of planting wheat in drills 9 inches apart, and sowing it broadcast in the usual way; the soil and treatment, in other respects, were precisely alike; the result was an average of 34 bushels to the acre on the sown, and 42 on the drilled. These experiments were made on fields of some acres." The construction and simplicity of this machine is such as to render it very little subject to get out of order, and must last, with reasonable care, for many years, and is capable of saving the farmer more than its cost every year, and consequently should be in the possession of every agriculturist. It will be warranted to perform well, or no sale. It will harrow, plant, and cover to acres per day, in either hills or drills, in the best manner; it can be made to operate with one or two horses, and the cost will not exceed from $25 to 28 at the manufactory. All orders addressed to the subscriber will meet with prompt attention.

A. C. BROWN.

Cincinnati, March 11th, 1845.

A. C. Brown also manufactures at his machine works, foundry, and machine card manufactory in Cincinnati, woolen machinery of all descriptions; machine cards of every description, warranted of the best quality; Gentry's patent portable French burr-stone mill, being the latest patent and most approved construction; Baldwin's patent portable metallic stock mill, a very superior constructed machine for grinding corn and cob together, and other grain into meal for stock feed.

Also agricultural machinery of the latest and most approved inventions, including horse powers, threshing machines, cotton and hay presses, corn shellers, clover hullers, straw cutters, corn planters, drilling machines, fanning mills, etc., etc. Likewise for sale French burr mill stones, bolting cloths, mill spindles, screws, and irons assorted, and most articles required by millers, manufacturers, carders, cloth dressers, weavers, etc.

Opened pursuant to stipulation, March 11, (filed 31st December, 1850,) of attorneys, and filed Jany. 8th, 1851.

(*No.* 10.)

John Magness being duly and carefully examined, and cautioned, and sworn to testify the whole truth, deposes and says, viz:

1st question, by defendants' counsel. State your age, residence, and occupation; and whether you are acquainted with the parties to this suit.

Answer. I am forty six years of age; I reside in Cincinnati; I am a blacksmith; I am acquainted with Cyrus H. McCormick, the plaintiff, but not with the defendants.

2nd question, by same. State what you know, if any thing, of any reaping machines manufactured by A. C. Brown of Cincinnati, for C. H. McCormick, the plaintiff, when they were manufactured, and how many.

Answer. In the fall of 1844, I contracted with A. C. Brown to build one hundred reaping machines of McCormick's patent; I contracted to build them by a machine that he brought to me, subject to any improvements that McCormick would make before they were finished. This was a verbal contract. I manufactured this one hundred machines, with the exception of some two or three that were not quite finished when the harvest came on. I think the first that were turned out were about the middle of June, and I stopped operations, I think, about the sixteenth of July. I worked at them during the fall, winter, and spring previous. There were fifty more of the machines, to the best of my knowledge, manufactured on Fitch street, Cincinnati, by Zink & Company. In the year 1847 I worked on reaping machines manufactured by Mr. A. C. Brown, being employed by him by the day. We made one hundred, I understood, for McCormick.

3d question, by same. State whether any seat for the raker was attached to the machines made by you in 1845; if yea, describe said seat, and the position of the raker when using it.

Answer. There was a seat attached to those machines; and they were so constructed as that the raker could sit immediately behind the ground wheel, over the finger piece, and at the end of the reel, with his back towards the team. He had to throw in his rake right hand foremost, and draw it towards him; that was the position of the raker while sitting upon the seat.

4th question, by same. State the difference, if any, in the position and construction of the seat in the machines manufactured in 1845, and those manufactured in 1847.

Answer. There was some difference in the way the seats were fastened to the machines. The seat on the machines in 1847 might have been a few inches higher than in the machines of 1845; but the position, I think, was the same. In the machines of 1845 the seat was made of a board, one end fastened to the hound of the machine, extending back by the reel post, so as to give the raker a seat as near over the finger piece as possible, and braced to the reel post; and in 1847, they were constructed to stand about in the same place, so as to let the raker sit as near in the same place as possible. The seat in the machine of 1847 was held up by a brace immediately under the raker.

5th question, by same. State whether C. H. McCormick sold any of the machines made by you in 1845; if so, when, and how many?

Answer. I heard Cyrus H. McCormick say, that he was to find purchasers for all those machines. I do not know that he sold any of them. They all went from my shop, and I afterwards saw some of them in operation.

6th question, by same. State who were the agents of C. H. McCormick in selling or obtaining orders for said machines.

Answer. I understood that a man of the name of McCormick, a cousin of Cyrus H. McCormick, was such an agent. There was also

a young man from Virginia, I think of the name of Hite, whom I understood to be an agent, from Cyrus H. McCormick. Further deponent saith not.

JOHN MAGNES.

Oct. 8, 1850.

(*No.* 11.)

U. S. circuit court.

CYRUS H. McCORMICK
vs.
WILLIAM H. SEYMOUR and DAYTON S. MORGAN.

Copy depositions taken in Ohio, in October, 1851.

John Magness, of lawful age, being carefully examined, and cautioned, and duly sworn to testify the whole truth, deposes and says as follows:

1st question, by counsel for defendants. State where you reside, and what is your occupation.

Answer. I reside in Cincinnati, State of Ohio—more than one hundred miles from the city of Albany in the State of New York. I am a blacksmith.

2d question, by same. Are you acquainted with Cyrus H. McCormick, the plaintiff, and did you ever manufacture the machine known as McCormick's reaper; if so, at what time, and how many? Were they made according to sample; and if so, by whom was the sample furnished?

Answer. I am acquainted with Cyrus H. McCormick, the plaintiff. My first acquaintance with him was in the year 1849. At that time I contracted with him and A. C. Brown to build one hundred McCormick's reapers; they were to be built after a model machine that McCormick brought here, and subject to any alterations and improvements that McCormick might make. I manufactured the hundred machines according to contract.

3d question, by same. State whether that sample machine furnished by McCormick had a seat on it for the raker; and if so, describe the seat.

Answer. I do not recollect whether the sample machine furnished by McCormick had a seat on it or not, but there was a seat belonging to it; whether it was actually attached to it at the time I do not remember. The seat was a board seat, placed over the end of the finger piece, and back of the reel post; the man had to sit with his back to the horses, handling the rake right hand foremost, throwing the rake under the reel, so as to get a fair hold of the grain. The seat appeared to be, as well as I can recollect, about seven feet long, one end fastened on the hounds, and extending back of the reel post; there the end rounded out to form an easy seat for the raker to sit on; it had not any cross piece attached to keep the raker secure in his seat.

4th question, by same. State whether in the course of the construction of these machines any, and what, alterations or changes from the model furnished were made by McCormick's directions.

Answer. The reel post was altered, by being made straight instead of crooked, as it was before; the new reel post was straight, and the reels had to be shortened, in consequence of having a straight post. There was an alteration in the dividing piece—that is, the piece to the left hand of the machine; the long brace that run from the top end of the crooked reel post to the back corner of the machine was dispensed with. These alterations were made by his instructions while making the machines.

5th question, by same. State whether these hundred machines manufactured by you had a seat for the raker attached, and the construction and location of those seats with reference to that on the model machine.

Answer. I attached seats to the most of those that I shipped, of the same construction and position of that on the model—that is, of the same position of that I have already described.

6th question, by same. State at what time that model machine was sent to the city of Cincinnati, and at what time the machines manufactured by you were shipped.

Answer. I think it was in the fall of 1844, in the month of September or October, that the model machine came to Cincinnati; the machines I made were shipped in June and July of the year 1845.

7th question, by the same. State if you know whether objections were made to the seat on the model; and if so, by whom and to whom, and what the objections were; and whether suggestions were made as to a new or different seat; by whom and to whom, and what they were, while the hundred reapers were being manufactured?

Answer. There were objections made by myself to McCormick and to A. C. Brown, if I recollect right, as to the construction of the seat; that it was too low, that a man could not work easily sitting so low. Nearly every hand I had came to the same conclusion that I did, that the seat was too low for a man to work easily. I recollect that Mr. Zink, of this city, who made fifty machines at the same time that I made one hundred, suggested a different form for the seat; he wanted it raised higher, and proportioned, so that a man could work easier—would be in more of a standing posture. There was a suggestion by somebody that there should be a belt, like the belt the stage drivers have to lean against, to prevent them from tumbling off. These suggestions were made to Mr. McCormick by Zink and by myself.

8th question, by same. State whether you were present at a trial of the reaper in 1845, and about that time, and where, and whether the machine had on it a seat, and what kind of a seat; and where that machine was manufactured, and for what particular purpose it was manufactured.

Answer. I was present at the trial of the reaper which McCormick built at A. C. Brown's card machine manufactory; it was in the forepart of July, 1845, in Kentucky, about two miles from the Ohio river.

It had a seat of the same position on it as the others, but differently constructed; it was raised higher, and there was a piece across the end to support the man and keep him from slipping off; it was before him, (the piece,) and the man sat with his back to the horses, in the same position as on the board seat. I have understood since from McCormick that this was the same machine that he took to the State of New York.

9th question, by same. State whether it was necessary to make any change in the machine, as manufactured by you in 1845, in order to substitute and attach the elevated seat, as in the one you saw tried, instead of the board seat, as in the model.

Answer. No; it was not necessary to do so.

10th question, by same. Have you seen McCormick's machine, as manufactured by him in the year 1849; and if so, what kind of seat had they on, compared with the one you saw tried in Kentucky, as to construction and position?

Answer. I worked on the machines manufactured by McCormick in this city, in the year 1849—made the blades for them; the seat was about the same position on the machine as the old board seat; in fact you could get it nowhere else on the machine, so as to get at the grain to rake it. The seat was in the same position as that on the machine I saw tried in Kentucky, and more elevated than the old board seat; the construction was somewhat different, there being a different way of placing it on the machine. Some of them were fastened on with an iron brace, and some with wood, but it amounted to about the same at last; when the seat came to be elevated, it required the cross piece before the man more than when they had the low board seat. Those manufactured in 1847 had the cross piece.

11th question, by same. Did you build a machine, and when, which had attached an elevated seat for the raker? And if so, describe that seat fully.

Answer. I built a machine in the latter part of July, 1845, differently constructed in many parts of it, but with an elevated seat. The seat was similar to the old board seat, made out of a board, rounded in front of the man so as to form a stay to him to keep him from falling off; it was elevated more than the old board seat, some; the finger piece was broader than that of the machines I built in 1845 for McCormick. The seat was in the same position on the machine with those I built for McCormick; the seat was placed over the end of the finger piece, back of the reel post, with the raker's back to the horses, using his rake right hand foremost, drawing the grain off in front of him. The driving wheel and gearing of it were similar to those of the machine I built in 1845 for McCormick. The raker sat on the seat with his back to the horses, outside of the seat; the position was the same as that of the raker on the board seat.

12th question, by same. Did you try that machine you have just spoken of in cutting grain, and when, and where?

Answer. I tried the machine the same season I built it in Ohio, about a mile north of Cincinnati, in an oats field.

13th question, by same. State whether you, in this machine, used a reel, and what was its construction compared with those you made for McCormick, and whether any change of the reel or gearing was made necessary by the elevated seat you have described.

Answer. I did use a reel similar to that of McCormick's, and I know of no difference in the reel or gearing from that of McCormick. No change of the reel or gearing was made necessary by the said elevated seat, and I made none.

14th question, by same. State if you know whether the seat on the machine made by you, which was tried in the oats field, was substantially like the seats on the machines now or recently manufactured by McCormick at Chicago.

Answer. I do not know.

15th question, by same. Was it substantially like that on the machines manufacturing by A. C. Brown for McCormick in this city in 1847?

Answer. The position of the seat on the machine was about the same—on the same place on the machine.

16th question, by same. When suggestions were made by yourself and others to McCormick, as to different constructions of the seat on the machine you have spoken of in 1845, did McCormick make any reply; and if so, what in substance?

Answer. He did make a reply; and we came to the conclusion that it was a principle of his to object to all suggestions, if he did adopt them afterwards. He did object to any suggestions we made. Further deponent saith not.

Oct. 8, 1851. JOHN MAGNESS.

(*No.* 12.)

At the same time and place came Augustus C. Brown, who, being carefully examined and cautioned, and duly sworn to testify the whole truth, deposes and says, as follows:

1st question, by counsel for defendant. State where you reside, and what is your occupation.

Answer. I reside in the city of Cincinnati, State of Ohio. I am in the business of manufacturing machinery, and have been for fifteen years or over.

2d question, by same. Are you acquainted with Cyrus H. McCormick, the plaintiff; and did you at any time, and when, enter into a contract with him for the construction of his reaping machine, and how many; and were they to be constructed according to any model? And if so describe the model.

Answer. I am acquainted with Cyrus H. McCormick, the plaintiff; I entered into a contract with him in the fall (September) of the year 1844, for the building of his reaping machines, under which contract about one hundred were built. He left a machine here which he said he brought from Virginia, as a model to build by, subject to some slight changes that he might want to make. The Virginia machine had on it a long, crooked reel post, bowed outwards, for the purpose, as repre-

sented, of giving more room for the reel to operate. From the top of this long reel post extended a brace to the tongue.

3d question, by same. In the building of the machines built by you in 1845, were any, and what, changes made from the model machine, and state the object of the changes made, if any?

Answer. The brace, and long crooked reel post, before mentioned, was dispensed with in the machines we built, and a shorter and straighter reel post substituted, and without any brace expanding from it to the tongue. The reel was also shortened a little, to accommodate it to the new straight reel post.

4th question, by same. Had these machines, built by you in 1845, a seat for the raker? And if so, describe the seat, its mode of construction, its position with reference to the other parts of the machine, and the position of the raker when the machine was in operation.

Answer. Seats for the raker were made on all the machines we built for the harvest of 1845, and attached to all, or nearly all, of the machines. The seat was made of a board some four or five feet long, one end of which was narrowed down to three or four inches in width, and attached by a bolt to the top of the out hound, near the forward end of the hound, and extended back along over the hound, a little beyond the back end of the hound, and over the finger piece or cutter bar, so a man could sit on it, resting his feet upon the finger piece or cutter bar, or upon a piece of a board extending along the finger piece, a little beyond the end of the finger piece, to give a better support to the left foot of the raker, when he wished to sit astride of the seat. The raker could also stand in the same position upon the finger piece, or with one foot on the finger piece and one foot on the seat, but needed further support to make his position firm and secure when the machine was in operation. The raker's position on the seat was with his back to the horses, and back of the main driving wheel.

5th question, by same. Do you know of suggestions being made by any persons, and when and what suggestions, to the plaintiff, McCormick, as to any improvement or change in the seat of the raker, and any and what objections being made to McCormick, by any persons, to the seat as constructed in the machine of 1845?

Answer. I recollect many suggestions were made to McCormick by the builders and workmen on the machines, relative to the seat, it being the general opinion among them that the position of the raker was about right, and in fact it was the only position in which a person could ride on the machine and rake, as the machine was constructed; but the objections were that the seat was too low, that it should be more elevated, and so arranged as to give the raker a freer action and firmer support in his place.

6th question, by same. What do you know relative to McCormick's approval or disapproval of these suggestions you speak of concerning the seat, and relative to his having a different seat fixed upon a machine by Mr. Zink?

Answer. Mr. McCormick did not appear at first to give much atten-

tion to these suggestions, but finally consented, as I was informed, (I do not recollect distinctly by whom,) to have Mr. Zink fix a seat on one of the machines agreeable to Zink's suggestions; and afterwards, say about the first of June, Mr. McCormick got me to build a machine for him, for the purpose, as he stated, of making some little alteration in the construction, principally in reference to the seat.

7th question, by same. State if you made a machine for McCormick, as alluded to in your last answer, and when it was finished; and whether it was tried in grain; and when and where, to your knowledge, and to what place, if any, from Cincinnati, that machine was sent by McCormick.

Answer. I had the machine made for Mr. McCormick; the work was done principally by William B. Stuart, who was employed by me, at work in my shop, under the direction of C. H. McCormick. It was finished on or about the tenth of June, 1845. It was taken to a field of grain a few miles south of this city, in Kentucky, and tried by McCormick, immediately after it was finished. Mr. McCormick brought it back here, and shipped from here to Brockport, New York, as he informed me. He left here himself, about the same time, for the same place.

8th question, by same. Had this machine, last spoken of by you, a seat for the raker; and what was its construction, as compared with the seats on the other machines built by you in the winter of 1844–'5, and its construction and position, as compared with the seats now in use on McCormick's machines?

Answer. Said machine had a seat for the raker. It was different in construction from the machines built in the winter of 1844–'5. It was in the same position, but more elevated, and so constructed that a man stood or sat astride of it, having a cross piece in front to support him when leaning forward to rake. His position on the seat was back of the main driving wheel, with his back to the horses. The seat was the same, and the position was the same in principle—substantially the same as in the machines since built by McCormick.

9th question, by same. Were the alterations that you have spoken of, shortening the arms of the reel and straightening the reel post, &c., made with any reference to accommodating the machine to the elevated seat, or were they, or any of them, necessary for that purpose; and did the attaching of a seat render any alteration of the machine necessary?

Answer. None of the alterations were made for the purpose of accommodating the machine to the seat, nor were any alterations necessary to accommodate the machine, as built for the harvest of 1845, to the seat now used, except to extend the large end of the finger piece a few inches, to give a better support to the left foot of the raker.

10th question, by same. State whether any change from the sample machine, furnished you in 1844 by McCormick, was necessary, in order to attach to it and use the board seats, which were attached to those manufactured by you in 1845, or the elevated seat which you did at-

tach to the one tried in Kentucky, or the seat as since made and now used by McCormick.

Answer. There was no change necessary in the sample machine to attach the board seat, or to attach the elevated seat as now used, except to extend the finger piece, as before mentioned.

11th question, by same. State what was the sole object of shortening the reel.

Answer. I do not know of any object in shortening it, further than that the arms were found longer than were necessary or useful.

12th question, by same. Was the reel ever shortened, to your knowledge, at the end next the raker, to prevent it from incommoding him in his work?

Answer. Not to my knowledge.

13th question, by same. Was the reel in the way of the raker, so as to make shortening it at that end necessary, for the purpose of introducing the seat as used on the machines built for the harvest of 1845, or as now used?

Answer. I should think not.

Mo.—The witness is shown the exhibits hereto attached and marked with numbers 1 to 12, and is asked the following question.

Copy.—*Exhibit No.* 1, *referred to by witness Brown.*

LAPORTE COUNTY, INDIANA.

On or before the 1st day of August, 1845, I bind myself to pay to A. C. Brown, esq., of Cincinnati, Ohio, one hundred dollars, in full for one of McCormick's wheat reapers, with an extra blade and pinion, warranted to cut fifteen acres of wheat or other small grain in a day when properly attended; to save an average of a bushel of wheat to the acre of ground, that would be lost by ordinary cradling; to be strong and durable, and not subject to get out of order. The machine is to be delivered to my order by the 20th day of June, eighteen hundred and forty-five, at Michigan city, Indiana, at an additional charge not exceeding the actual cost of transportation and insurance.

Witness my hand and seal, this 3d day of April, 1845.

JOSEPH DOWNING, [SEAL.]

JAMES M. HITE, jr.

(Endorsed:) Pay C. H. McCormick or order.

A. C. BROWN.

Copy.—*Exhibit No.* 2.

LAPORTE COUNTY, INDIANA.

On or before the 1st day of October, 1845, I bind myself to pay to A. C. Brown, esq., of Cincinnati, Ohio, one hundred dollars in full for one of McCormick's wheat reapers, with an extra blade and pinion, warranted to cut fifteen acres of wheat or other small grain in a day when

properly attended; to save an average of a bushel of wheat to the acre of ground, that would be lost by ordinary cradling; to be strong and durable, and not subject to get out of order. The machine is to be delivered to my order by the 20th day of June, eighteen hundred and forty-five, at Michigan city, Indiana, at an additional charge not exceeding the actual cost of transportation and insurance.

Witness my hand and seal, this 2d day of April, 1845.

D. G. ROSE, [SEAL.]

JAMES M. HITE, jr.

(Endorsed:) Pay to C. H. McCormick or order.

A. C. BROWN.

Copy.—*Exhibit No.* 3.

March 22d, 1845.

DEAR SIR: I will take one of your machines, payable in or after harvest next, if it will perform as I desire, and I will be satisfied with its performance if it will do as represented in your certificates. When you answer this, direct your letter to West Florence, Preble county, Ohio.

EBENEZER PADDOCK.

JAMES M. HITE, jr.

March 23d, Richmond, Indiana.

P. S.—DEAR SIR: I arrived here to-day, but will not leave until some time to-morrow, as I wish to see some of the farmers in this vicinity. Mr. Paddock is very able to purchase a machine, and think you would do well to let him have one on the terms he proposes. I have sent certificates to the following farmers in the vicinity of Mr. Ebenezer Paddock, namely, Mr. Newton Larsh, Mr. Samuel Huffman, and Mr. Elijah Paddock, a brother of Mr. Ebenezer Paddock, each of whom I suppose you will hear from, and probably sell machines to all.

Yours, very respectfully,

JAMES M. HITE.

(Directed:) Mr. A. C. BROWN,
Cincinnati, Ohio.

Copy.—*Exhibit No.* 4.

Mr. MILES GREENWOOD.

SIR: Please send me one of your Virginia reapers, patented to C. H. McCormick, with an extra blade, directed to the Woodford landing; for which I will pay you seventy-five dollars on the first day of September next, upon its performing according to your warranty—that is, to perform equal to those made by the inventor. To be of good materials, and durable, and not subject to get out of order. I will pay costs of transportation and insurance.

JOSEPH FRAZER.

December 30th, 1844.

Copy.—*Exhibit No. 5.*

Mr. MILES GREENWOOD.

SIR: Please to one of your Virginia reapers (with an extra blade) patented to C. H. McCormick, directed to Bowling Green; for which I will pay you one hundred dollars on the first day of September next, upon its performing according to your warranty—that is, to be made out of good materials, and to perform equal to those made by the inventor. I will pay the costs of transportation and insurance. It is agreed that fifty dollars of the above shall be paid first of September, 1846.

JOHN GRIDER.

December 24th, 1844.

(Endorsed:) Pay C. H. McCormick or order.

A. C. BROWN.

Copy.—*Exhibit No.* 6.

Mr. MILES GREENWOOD.

SIR: Please send to me one of your Virginia reapers, patented to C. H. McCormick, with an extra blade, directed to Singleton's landing; for which I will pay you one hundred dollars on the first day of September next, upon its performing according to your warranty—that is, to perform equal to those made by the inventor, to be durable, and not subject to get out of order. I will pay the costs of transportation and insurance.

LEWIS SINGLETON.

December 27th, 1844.

(Endorsed:) Pay C. H. McCormick or order.

C. A. BROWN.

Pay J. B. McCormick.

C. H. McCORMICK.

Copy.—*Exhibit No.* 7.

Mr. MILES GREENWOOD.

SIR: Send to me one of your Virginia reapers, invented by C. H. McCormick, directed to Clarksville, with an extra blade; for which I will pay you one hundred dollars, and the costs of transportation and insurance, upon its performing equal to those made by the inventor, and to be durable, and not subject to get out of order; payable first day of January, 1846.

December 21st, 1844.

Note, the above is to perform all the work as represented in the appendix account of McCormick's Virginia reaper, or I am not bound to keep it, but will, subject to Mr. M. Greenwood's order, after a fair trial.

TIL'N OFFETT.

(Endorsed:) Pay C. H. McCormick or order.

A. C. BROWN.

3249.

Copy.—*Exhibit No.* 8.

Mr. MILES GREENWOOD.

SIR: Please send to me one of your Virginia reapers patented to C. H. McCormick, directed to Nashville; for which I will pay you one hundred dollars on the first day of September next, and pay the costs of transportation and insurance, upon its performing according to your warranty—that is, to perform equal to those made by the inventor, and to be durable, and not subject to get out of repair. Send two blades.

JOHN ORENDORFF.

December 20th, 1844.

Copy.—*Exhibit No.* 9.

Mr. MILES GREENWOOD.

SIR: Please send me one of your Virginia reapers patented to C. H. McCormick, directed to Clarksville, Tennessee; for which I will pay you one hundred dollars on the first day of September, upon its performing according to your warranty—that is, that it shall be made out of good materials, and perform equal to those made by the inventor. Send two blades.

R. B. MITCHELL.

December 15th, 1844.

Copy.—*Exhibit No.* 10.

Mr. A. C. BROWN.

SIR: Please send to me one of your Virginia reapers patented to C. H. McCormick, directed to Trice's landing, on Cumberland river; for which I will pay you one hundred dollars, with the reasonable costs of transportation and insurance, upon its being equal to your warranty—that is, when well attended, to cut 15 acres of wheat or other grain per day; save one bushel an acre, that would be lost by ordinary cradling; to be durable, and not liable to get out of repair. Two blades will be sent.

JOHN W. BAKER.

December 18th, 18*th*, 1844.

Payable first of January, 1846.

Copy.—*Exhibit No.* 11.

Mr. MILES GREENWOOD.

Please send me one of your Virginia reapers patented to C. H. McCormick, directed to Trice's landing, on Cumberland river; for which I will pay you one hundred dollars, first of September next, upon its performing equal to those made by the inventor, and according to your warranty.

JAMES W. MOORE.

December 8th, 1844.

Copy.—*Exhibit No.* 12.

Mr. A. C. Brown.

Please send to me one of your Virginia reapers patented to C. H. McCormick, directed to Trice's landing, on Cumberland river; for which I will pay you one hundred dollars, first of November next, upon its performing equal to your warranty, of cutting fifteen acres a day, saving one bushel of wheat that would be lost by ordinary cradling, and to be simple, durable, and not liable to get out of repair. I will pay costs of transportation and insurance. This is to be added to the price of hundred dollars. Make the machine cut to seven inches. Send two sickles.

JAMES M. FAUNTLEROY.

December 14th, 1844.

14th question, by same. What are the papers shown you?

Answer. They are orders for reaping machines that we built in 1845. I believe we furnished the machines according to the orders.

15th question, by same. Are you acquainted with James M. Hite, jr., whose name appears as subscribing witness to two of the orders, and with his handwriting; and if you know whether he acted as agent for Cyrus H. McCormick in procuring orders for reapers, and where he resides? Are the two signatures to those orders in his handwriting?

Answer. I am acquainted with said James M. Hite, jr., and also with his handwriting. His name as subscribing witness in two of those orders, Nos. 1 and 2, is in his handwriting. Cyrus H. McCormick informed me that he was his duly authorized agent, in procuring orders for reapers. Mr. McCormick said he resided in Virginia.

16th question, by same. Explain, if you can, how it occurred that several of these orders, made exhibits, were addressed to Miles Greenwood?

Answer. All that I know about that is, that Cyrus H. McCormick was about making arrangements with Miles Greenwood for manufacturing reapers, about the time the agent started out to obtain orders. That arrangement fell through, and McCormick closed an arrangement with me, as before stated, and the orders that had in the mean time been obtained, addressed to Miles Greenwood, were transferred to me to be filled.

17th question, by same. Were other, and how many other, similar orders obtained by McCormick's agents for the harvest of 1845, and supplied by you?

Answer. There were altogether near one hundred orders received. They were mostly obtained by McCormick's agents, and were filled by me with machines built for the harvest of 1845.

18th question, by same. Did you subsequently have a settlement with the plaintiff, in which these orders were taken into the account? If so, what was that settlement, and what was done between you with reference to those orders?

9244.

Answer. I had a settlement with C. H. McCormick, in which I allowed, and paid him the patent fee of twenty dollars for each machine, sent out to fill those orders, amounting to ninety-seven or ninety-eight machines. I retained the orders, and was authorized to collect the money for the machines.

19th question, by same. Are you able to tell how early, at what date, you paid the first patent fees to McCormick, as above?

Answer. It was not absolutely paid to him until the fall of 1845, but orders for reapers to the amount of one-fifth of those received were transferred to him soon after they were received, on account of patent fees.

20th question, by same. Among the orders thus transferred to McCormick, were any of the orders among the exhibits introduced included, and which ones; and is the signature of A. C. Brown, on the back of them, in your handwriting?

Answer. Among the orders exhibited, Nos. 1, 2, 5, 6, and 7 appear to have been transferred to McCormick. The signatures of "A. C. Brown," endorsed on them, are in my handwriting.

21st question, by same. Witness being shown a paper, introduced and marked (A), bearing date April 9th, 1845, is asked if the signature thereto is in the handwriting of plaintiff, and if the request therein contained of forwarding extras of the "Enquirer" was complied with, and whether the "Enquirer extra," therein referred to, is the handbill annexed to his former deposition taken in this suit?

Answer. The whole letter, marked (A,) and the signature thereto, are in the handwriting of plaintiff, McCormick. I believe the request was fully complied with. I recollect forwarding the extra Enquirer. The "Enquirer extra," referred to therein, was the handbill annexed to my former deposition in this suit.

Copy.—*Exhibit (A) referred to.*

Mr. A. C. Brown will please send up to Col. Taylor some of the Enquirer's extra, as he may want some; also please forward 40 of them to James M. Hite, esq., of White Post P. O., Clarke city; 20 to Jabez Parker, of Richmond, Va.; 40 to Col. M. Tertwiler, of Seven Islands P. O., Fluvanna city; and 50 to Robert McCormick, sen., Steele's tavern, Augusta city, Va., and oblige

Respectfully, yours,
C. H. McCORMICK.

Steamboat, 9th April, '45. Send them to Col. Taylor.

Memo. The witness is here shown a printed paper, headed "Plow Boy extra," and marked (B.)

22d question, by same. State whether the "Plow Boy" was an agricultural paper, published at that time in the State of Ohio; and whether it had an extensive circulation; and whether you know of plaintiff's procuring the advertisement of his reaper to be published therein.

Answer. The "Plow Boy" was an agricultural paper, published in

this city at that time, and I believe had quite an extensive circulation at that time. I know that McCormick had the advertisement inserted in that paper, which is contained in the exhibit (B.)

Exhibit (B) is entitled "Plow Boy extra," a printed paper, containing advertisements, certificates, &c., relative to the reaper. Not copied; it is the same in substance as No. 9, above.

23d question, by same. Do you remember forwarding the reaper, ordered in exhibit marked No. 2, signed by D. G. Rose, to said Rose; and had it a seat for the raker, and what kind of a seat?

Answer. I remember shipping a reaping machine for D. G. Rose, to fill his order; and I believe it had a board seat attached to it, as I know of no machine shipped that season without the seat.

24th question, by same. State whether, in the year 1847, or at any other time, you put on the back part of a reaping machine, for D. G. Rose, a seat, with a cast iron wheel under it.

Answer. I never did at any time attach a seat to that machine, other than that it had when it went away.

25th question, by same. State whether, in the year 1847, or at any other time, you attached a seat to the rear of a reaping machine, with a cast iron wheel under it, for Thomas D. Vail.

Answer. I did not.

26th question, by same. State whether, in June last, you made a careful estimate of the cost of manufacturing these reaping machines.

Answer. I am unable to make an exact estimate of the cost of the machines we built in 1845.

Memo.—Witness being shown the paper writing, marked by me "Exhibit C," is asked the following question:

27th question, by same. State whether exhibit (C) contains, in your judgment, a correct statement of the cost of manufacturing McCormick's reapers.

Answer. It does, with the following exceptions: The first item in that estimate, of $12 50, which I would estimate at $15 00; the third item in the estimate, of 3½ cents a pound for castings, cost here from 4 to 4½ cents a pound; the fifth item, of $2 50, I would estimate at $3 50; the band in this estimate called 81 cents, I would estimate at $1 37½. The loss by warrantee I found much greater than put down in this estimate. The last item, of $7, if it is construed to include the trouble of closing, by getting the money or a note, should be $10; I offered that much myself.

Copy.—*Exhibit (C) referred to.*

Estimated expense and cost of manufacturing McCormick's reaping machines, as made by Fitch, Barry & Co., during the years '46, '48, '49, '50, as follows:

Labor of making wood work, putting in gearing, and putting machinery together ready for use - - - - - -	$12 50
Lumber - - - - - - - - - - - -	5 00

Castings, 212 pounds, 3½ cents		7 42
Wrought iron, besides wastage, about 160 lbs., at 4 cents		6 40
Boring and fitting castings, hanging wheels, and turning wrought iron		2 50
Wrought iron work, to wit, blacksmith's labor		3 50
2 sickles, 12s.		3 00
Paint and painting		1 25
1 band and buckle		81
		$42 38

Other expenses, as follows:

Use of machinery, engine man, and wood	$2 50	
Superintending and interest	4 00	
Loss on warrantee, say on average	3 00	
Coal for use of blacksmith	38	
Labor and expense in putting machines in work, on an average	5 00	
Cost of procuring order and making sale, say	7 00	
		21 88
		$64 26

28th question, by same. State whether you manufactured any of those machines in which the crooked reel-posts and long brace, running from the reel-post to the tongue, was retained.

Answer. I did not.

Further deponent saith not.

A. C. BROWN.

October 8, 1851.

(*No.* 13.)

At same time and place came Edward R. Miller, of lawful age, who being carefully cautioned and duly sworn to testify the whole truth, deposes and says, as follows:

1st question, by counsel for defendants. State your residence and occupation.

Answer. I live in the city of Cincinnati, State of Ohio; I am a house-carpenter and machinist; I worked at Mr. Brown's (Augustus C.) in manufacturing machinery some seven or eight years.

2d question, by same. Do you know any thing of a reaper being brought to Mr. Brown's shop, as a sample to make others by; and if so, when was it brought there?

Answer. I do not recollect the time, or in what year it was brought there; but there was one brought there before any were made in Cincinnati.

3d question, by same. State whether you yourself worked at building the reapers that were built by Mr. Brown, and where was the wood work principally made?

Answer. I worked some on those reapers in his factory; Mr. Zink built several of them, and Mr. Magness built some of them; they two built most of them—Mr. Thomas F. Zink and John Magness. They had separate shops. I speak of the first reapers that were manufactured in the city of Cincinnati.

4th question, by same. Did you see the reapers while they were being built, and when, and how often; and had they seats on them; and if so, what kind of seats?

Answer. I saw the reapers pretty much all the time they were building them, at the shops of Mr. Brown, Mr. Zink, and Mr. Magness; they had—some of them had—what they called board seats on them; that is, all had that I saw.

5th question, by same. Did you hear objections made to the seat, and by whom, and what were the objections; did you hear any made to the plaintiff; and if so, what reply did he make thereto?

Answer. I heard objections made to the seat while they were being manufactured, by the hands about the shop—Mr. Zink, Mr. Magness, and others. They did not think a man could stand on the seats to rake off of them, or sit on them. I do not recollect hearing any objections made to McCormick himself; we had this talk pretty much among ourselves.

6th question, by same. Did you see a machine which was manufactured by Thomas F. Zink, and which had on a seat different from the seats of other machines manufactured that year; and if so, state in what particular the seat differed from the others?

Answer. I saw such a machine manufactured by Mr. Zink. I hardly recollect in what way that seat was arranged, but it was different; it is so long ago I cannot state the particulars.

7th question, by same. State whether you worked on a reaper made by Mr. Brown for the plaintiff, and which was afterwards tried over the river in Kentucky.

Answer. Yes, sir.

8th question, by same. Had that reaper, last mentioned, a seat differing from the mass of the others that you manufactured; and tell what the difference was, if you can?

Answer. I believe that was the machine McCormick took east with him. It had a seat different from the others; it was a seat made to stand astraddle of, with a cross piece in front; I made it myself. I believe it was about the same place on the machine as the others; it was higher up than in the others.

9th question, by same. State whether this reaper, manufactured by Brown and used in Kentucky, spoken of, was made after the one Zink had built, with a different seat, as spoken of by you.

Answer. Yes, sir, I believe it was; I think that machine was made afterwards.

10th question, by same. Did you at any time, and when, go out for the purpose of starting and setting reapers going; if so, where did you go, and how many reapers did you start?

Answer. I did go out for that purpose; and I think in the year 1846

I went to the northern part of Indiana, Laporte, Lake, and Morgan counties, and others whose names I do not recollect. I do not recollect exactly the number of reapers I started, but I think from 25 to 30.

11th question, by same. State whether these reapers had seats on them, and what kind of seats.

Answer. They had the board seat on them.

12th question, by same. State whether you saw any of the reapers which had been sent out for the harvest of 1845, and the names of any persons you saw using them, if any; and whether they had seats on them, and what kind of seats.

Answer. I saw some of those reapers, and helped to set them agoing. I saw Mr. Allen—I think A. Allen—using them; Mr. Hempfield also; and Mr. D. G. Rose, and Mr. Camp. They all had board seats on them that I saw.

13th question, by same. Describe any method you saw practised by any of these persons named, of using these seats, or raking off the grain from the reaper.

Answer. There were none of them that could use those seats but one, and he stood on it with both feet, and raked off the grain. I rigged a seat on a machine of Mr. Allen, near Jefferson, Indiana. When I got the machine there, the machine could not be used at all; the man said he could not sit on it to rake to advantage; it was not high enough. I went to the fence and got a rail, and put the rail through the hounds. It run back over the finger piece. I arranged this so that a man could stand astraddle of it. This rail had a big knot in it, which I had so that it would be in front of the man and keep him from slipping off. I took the board seat off. The rail was right over the place where I took it off. I fastened the rail to the reel post, I think it was called, and to the hounds. Mr. Allen got on and tried it, and said he thought it would do very well.

14th question, by same. State whether the new seat you saw, which was made by Zink, was in the same position with reference to the other parts of the machine as the board seat, and whether it had a cross piece for the raker to lean against.

Answer. I think the seat made by Mr. Zink was made higher, as to the cross piece; I do not remember.

15th question, by same. State whether or not you are acquainted with the machines for reaping, as since manufactured by McCormick at Chicago.

Answer. I am not.

16th question, by same. Did you see the seats manufactured here for McCormick, by Brown, in 1847, that had on an elevated seat?

Answer. I did see them.

17th question, by same. State whether these elevated seats could be attached to the reapers as made in 1845, without any change of the gearing or other parts of the machine, so as to be used successfully.

Answer. I think they could.

Further deponent saith not. E. R. MILLER.

October 8, 1851.

(*No.* 14.)

Thomas F. Zinck, of lawful age, and being carefully examined and cautioned, and duly sworn to testify the whole truth, deposes and says:

1st question, by counsel for defendant. Where do you reside, and what is your occupation?

Answer. I reside in the city of Cincinnati, State of Ohio. My occupation is machine building. I have been in that business about seven years.

2d question, by same. State whether at any time, and when, you in connection with any other person, and whom, built machines known as McCormick's Virginia reaper, and how many.

Answer. I contracted in the winter of 1844–'5, with Augustus C. Brown, in company with William J. Lewis, to build fifty of McCormick's Virginia reaper. We built them in the spring and summer of 1845, for the harvest of 1845.

3d question, by same. State whether these fifty machines were built according to any, and what, directions or form or sample furnished by any one, and by whom, and whether seats for a raker were attached to them, and describe the seat.

Answer. They were to be built by a sample of the machine furnished by McCormick, subject to any alteration he might suggest; they had a seat for the raker—all that I built. The seat was made of a board, narrow at the forward end, and fastened to the forward end of the out hound, extending backwards outside of the hound, outside and back of the gearing and main driving wheel, so that a man could sit or stand with his back to the horses, and rake the grain off. The raker could sit sideways or astride, or stand on the seat. I have seen the raker rake off in all those positions. He was back of the main driving wheel, and with his back to it. The first board of the platform, back of the cutter bar, extended out under the seat for the raker to rest his feet upon. This was done for the support of his feet, so that they would not hang down.

4th question, by same. State whether in the building of these fifty machines any changes were made from the sample machine, and what changes, and any reasons you know for such changes being made.

Answer. The long crooked reel post was dispensed with, and a shorter and straighter one used. The brace from the reel post to the tongue was also dispensed with entirely. I am not positive about any change in the reel, but think it was shortened. I cannot tell the reasons for these changes being made. I suppose the reel was shortened to accommodate it to the straighter reel post.

5th question, by same. State whether the raker could sit or stand upon the board seat, as attached to the machines built by you and Lewis, and rake off the grain without any obstruction from the reel.

Answer. We could without any more obstruction than in the machines built by McCormick since. There was always some obstruction.

6th question, by same. Have you seen the reapers as manufactured by McCormick at Chicago, since that time? And if so, describe the reel post, reel, and arrangement of the gearing, as compared with the fifty manufactured by you and Lewis in the winter of 1844–'5.

Answer. I have seen the reapers manufactured by McCormick at Chicago since that time. There was no change in the reel post (the post next to the raker) from the machines made by me and Lewis, nor in the reel that I know of. The reel shaft was lengthened, I think. The gearing was changed from back of the main driving wheel to forward of it. I have seen a single machine since, manufactured by McCormick at Chicago, in which the gearing was placed back again, in the same, or nearly the same, position as in the fifty made by Lewis and me.

7th question, by same. In this single machine you speak of, state whether the arrangement of the reel post and reel, and the position of the raker on the machine, was the same as on the fifty manufactured by you and Lewis in 1845, or otherwise.

Answer. The positions were all the same, or nearly the same, except that the raker's seat was more elevated.

8th question, by same. State whether the change of the gearing from behind to before the driving wheel, as alluded to by you, was at all necessary to accommodate the machine to the seat, or position of the raker, and whether that change was for the better or otherwise, with reference to the raking.

Answer. The change was not necessary, and I do not think it affected the raking either for better or worse. I think the arrangement of the gearing, in the fifty machines I built, was better than in those built by McCormick with the gearing before the wheel.

9th question, by same. While you were building those fifty machines for the harvest of 1845, did you make any, and what suggestions to plaintiff McCormick, in relation to alterations of the seat of the raker, and what did the plaintiff reply, if any thing?

Answer. I suggested a more elevated position of the raker's seat to him. He replied that he had tried the board seat sufficiently to know that it would answer the purpose.

10th question, by same. State whether you had more than one conversation with the plaintiff on the subject of the seat, and the change of it, while you were building those fifty machines, and whether you know that other persons, and who, made any and what objections to and suggestions about the raker's seat.

Answer. The seat was frequently talked of by myself and workmen in McCormick's presence; that the old seat—the board seat—would not answer the purpose, that it was too low; and it was the general suggestion among all hands that it ought to be elevated.

11th question, by same. State whether, in the season of 1845, you attached to one of the machines a seat different from the board seat; and if so, describe the seat; and whether McCormick saw the new seat put on by you; and what, if any thing, he said and did in relation to it.

Answer. I did put on a seat on one of the machines by McCormick's

instructions. It was made by placing two pieces of board, 10 or 12 inches wide, on the top of the board seat edgewise, say five or six inches apart. There was another piece of board, say five or six inches wide, nailed on the top of the first two pieces spoken of, with another piece of board fastened crosswise on the back end, for the raker to lean forward against for a support. The seat was thus elevated ten or twelve inches higher than the board seat. A man could stand astride of it and bear forward against the support placed crosswise on the seat. The position of the raker was the same as in the fifty machines made by me, except more elevated. McCormick saw the new seat after it was put on by me. He said nothing that I recollect of. He appeared to be satisfied with it, and paid me a dollar for putting it on.

12th question, by same. State whether that elevated seat put on by you was similar or otherwise to those on McCormick's machines as now manufactured, and whether or not its position on the machine was the same.

Answer.

13th question, by same. State whether you made any change in the machine on which you attached this elevated seat, or whether, in other respects, it was like the whole fifty manufactured in the season of 1845; and whether or not any change of the machines, as manufactured for the season of 1845, in order to attach such an elevated seat and have it practically useful, was necessary.

Answer. I made no change in said machine; it was like, in other respects, the balance of the fifty. No change was necessary in the machines made in 1845 to attach such elevated seat and make it practically useful.

14th question, by same. State whether you attached a similar elevated seat to any others of the machines manufactured for the harvest of 1845, without any change of the machine otherwise, and whether you saw them in operation in cutting grain, and worked on them yourself, or any of them, and whether they worked well in respect to the raking.

Answer. I attached the elevated seat to a number of the machines built by me in 1845, in the harvest of 1846 and 1847, and raked off of them myself; they worked quite as well as the machine since built by McCormick, at Chicago.

15th question, by same. Did you at any time start machines manufactured for the harvest of 1845, at work; and where? And state any manner you saw among the farmers of using the board seats, and whether you heard any, and what, objections made to that seat; and whether you saw any, and what, contrivances to obviate those objections in use.

Answer. I started a number of said machines at work in the harvests of 1846 and 1847, in the States of Missouri, Illinois, and Iowa. The board seat was not generally used. It was used in one or two instances that I know of—in one case, by Mr. John Kurtz, of Henderson county, Illinois. The raker would sometimes sit astride, sometimes both feet inside the seat, and sometimes both feet outside; some-

times standing upright on the board seat with his feet on the seat. I have also seen him stand with one foot on the cutter bar and one foot on the seat. The seat was almost invariably objected to on the account of being too low. I saw, in one instance, a man who had lashed a rail to the reel-post and wheel-piece, extending backwards, above the board seat, and higher than it. The raker would sit or stand astride of it, with his feet resting on the board of the platform, back of the cutter bar. There was a piece fastened on the rail crosswise for the raker to lean against as a forward support. I saw a similar fixture put on by a Mr. Carnahan, of Rock Island county, Illinois.

16th question, by same. State whether you know of a machine being built by Mr. Augustus C. Brown, for the plaintiff, in the summer of 1845, to which an elevated seat was attached; and if so, describe the seat as compared with the one put on by you as above spoken of, as to its form, position, &c., and state whether this machine, made by Brown, was built before or after you had attached the elevated seat to the one you have before spoken of.

Answer. Mr. Brown built a machine for McCormick in the summer of 1845, on which was attached an elevated seat. The principle and position of the seat was the same as the one I put on, and the machine was built after the one to which I attached an elevated seat was built. On the machine built by Brown the seat had a front support, and was made so that a man could stand or sit astride of it and rake. It was in the same position on the machine as the board seat, only more elevated.

17th question, by same. State whether these fifty machines built by Lewis and you, for the harvest of 1845, had any thing attached to protect the gearing, and describe the place where this attachment was, and what it was, how constructed, and what was its object.

Answer. There was an attachment to protect the gearing. There was a board placed or fastened to a brace, extending from the hound to the wheel-post, passing over the pitman, near to it—right over it—to protect the gearing from straw and dirt. This was at the end next the reel. There were other board protections about the machine which I do not recollect well enough to describe.

18th question, by same. Describe the form of the inner hound on the machines built by you and Lewis for the harvest of 1845, and the object of that form.

Answer. It was made crooked, bowing outward from the gearing. The object was to give room for the gearing, and to give the grain a turn into the cutter. There was a strip of board attached to the edge of the inner hound, and also the end of the hound next to the cutter. It was pointed at the forward end, and widened as it extended backwards to the cutter bar, and was cut at the end next to the cutter bar, so as to form an angle—the same angle of the fingers forward of the cutter.

19th question, by same. Have you at any time made an estimate of the cost of manufacturing those reaping machines by items? and state what, in your judgment, was the cost of manufacturing them at this place.

Answer. I have made such an estimate. In my judgment the cost of manufacturing the machines at this place was about fifty-five dollars, not including obtaining orders, starting machines, and making collections, which would be twenty dollars more.

Further deponent saith not.

THOMAS F. ZINCK.

Oct. 8, 1851.

(*No.* 15.)

At the same time and place came Columbus Smallwood, of lawful age, who being carefully examined, and cautioned, and duly sworn to testify the whole truth, deposes and says:

1st question, by counsel for defendants. Where do you reside, and what is your occupation?

Answer. I reside in the city of Cincinnati, State of Ohio; I am a house-carpenter, and have been at the business since 1840; I have also worked on different kinds of machinery.

2d question, by same. State whether you assisted at any time, and when, in the manufacture of McCormick's Virginia reapers.

Answer. I did, in the city of Cincinnati. I do not recollect what year—some five or six years ago. It was the first lot of reapers made here. I took the model apart to make patterns by.

3d question, by same. State whether those reapers that you assisted in building had a seat for the raker attached, and what kind of a seat.

Answer. They had a seat attached—a board seat.

4th question, by same. State whether you saw, in the summer of 1845, any of those reapers on which was placed an elevated seat; and if so, where.

Answer. It appears to me that I saw an elevated seat, but I am not sure whether it was in 1845 or 1846. I saw a machine made by John Magness, with an elevated seat, in Cincinnati. I saw it tried out of the edge of the city, in an oats field, I think.

5th question, by same. Describe how the raker stood and worked on that machine.

Answer. It appears to me that he walked; but I am not certain whether he walked or was on the seat. It has been so long that I can hardly recollect. It had an elevated seat. It appears to me that there was a cross piece in front of the raker. I now recollect that there was.

6th question, by same. State if you saw, also, a reaper with an elevated seat, which was manufactured by A. C. Brown, of Cincinnati, for McCormick, and state whether that was built after the one was built by Magness, as above mentioned.

Answer. I recollect seeing a machine made by A. C. Brown, (I do not know for whom.) It appears to me, from the best of my recollection of it, that it had an elevated seat. It was made after Magness's was made.

7th question, by same. State whether you understood that the ma-

3249

chine made by Brown was tried in Kentucky, and whether it was afterwards sent anywhere.

Answer. I think it was tried in Kentucky; that was what I understood. It was afterwards sent away somewhere, I think. I know there was a great demand for them, and they were sending them away as fast as they could.

8th question, by same. State how long you worked at the manufacture of reapers.

Answer. I think altogether from eighteen to twenty months in this city. Further deponent saith not.

Oct. 10, 1851. COLUMBUS SMALLWOOD.

(*No.* 16.)

At the same time and place came William B. Stuart, of lawful age, who being carefully examined and cautioned, and duly sworn to testify the whole truth, deposes and says:

1st question, by counsel for defendants. Where do you reside, and what is your occupation?

Answer. I reside in the city of Cincinnati, in the State of Ohio. I am a pattern maker, and have heretofore been working at pattern making and machine making both.

2d question, by same. State whether at any time, and in what year, you worked with A. C. Brown, in Cincinnati, at the manufacture of McCormick's Virginia reapers; and if so, tell about what time of the year they were completed.

Answer. I worked with A. C. Brown, in Cincinnati, at the time he was manufacturing McCormick's Virginia reapers, in the fall of 1844, I think, or the spring of 1845. It must have been in the spring of 1845. They were not completed until late; some of them were not finished in time for the harvest—that is, to sell before harvest. They were all finished about the last of June or first of July.

3d question, by same. Had these reapers a seat for the raker attached, and what kind of a seat?

Answer. Yes, they had a seat attached to them. The seat was a piece of plank scolloped out on each edge, with another piece of plank bolted across the end of it, so that a man could stand astraddle of the former, and lean forward across the latter.

4th question, by same. State whether you assisted Mr. Brown in getting up a single machine to be taken to New York; and if so, at what time was it finished, and had it a seat more elevated than the others attached to it or not?

Answer. I assisted Mr. Brown in getting up a machine to be taken to New York. It must have been finished, I think, about the same time the others were finished—the latter part of June. It is my opinion that it had a seat more elevated than the others; now, it is a good while since it was made.

5th question, by same. State whether the machine last spoken of by you was tried in Kentucky, and whether any change in this machine

from the other machines manufactured that year was made on account of attaching a more elevated seat.

Answer. I understood said machine was tried in Kentucky. I did not see it. I do not think there was any change made, and I am certain it was not necessary to make any change in the gearing or the reel. The reel must stand in that place, let the seat be where it will.

6th question, by same. State by whom, and at whose shops, the first of these reaping machines built at Cincinnati were built, and whether you recollect distinctly about the form of the seat on those first reapers.

Answer. As I understood, the first were built at Mr. Magness's shop and by him. I do not recollect distinctly about the form of the seat on the first lot of reapers. I think it was the second lot built by Mr. Brown that had the cross piece. I helped to put up the last lot, and think it must have been in that way that I got the idea of the cross piece being on the first lot, with which I had nothing at all to do.

7th question, by same. State whether the machine made by Brown for New York, spoken of by you, had a cross piece on the raker's seat to support the raker, and whether that was the first one you saw made which had such a cross piece on the seat.

Answer. Said machine had such a cross piece, and was the first one I saw made at all. Further deponent saith not.

Oct. 10, 1851. WILLIAM B. STUART.

(*No.* 17.)

William J. Lewis, of lawful age, who was duly examined and cautioned, and sworn to testify the whole truth, deposes and says, as follows:

1st question, by counsel for defendants. State where you reside, and what has been your occupation for the last six or seven years.

Answer. I reside at present in Storis township, Hamilton county, Ohio. At present I am farming. I have been engaged in coach trimming and painting, and have practised the trade of coach making.

2d question, by same. Did you at any time, and when, and with whom, assist in the manufacture of McCormick's Virginia reaper?

Answer. In the spring of 1844, Thomas F. Zink and myself built for A. C. Brown, of this city, fifty of McCormick's Virginia reapers, agreeable, as I understood, to McCormick's original patent.

3d question, by same. State whether these machines which you and Mr. Zink built had a seat for the raker attached; and if so, describe the seat.

Answer. They had a seat attached for the raker to sit on; the board seat it was called.

4th question, by same. State whether you know that Mr. Zink put on to one of the fifty machines built by you a seat different from the seats of the residue of the fifty; if so, describe the seat fully.

Answer. I recollect distinctly Mr. Zink's putting on to one of the machines a seat entirely different from the other seats. It was in a

more elevated position for a man to sit astride of, with his feet on the finger-piece or cutter-bar, as it is sometimes called, with his back to the horses. It was back of the main driving-wheel, and was constructed to sit astride of, nearly in a standing position, with a supporter for a man to rest himself upon, which run across in front of the raker, so that he could lean against it in raking. My impression is that the seat was in the same position, with reference to the other parts of the machine, as the board seat, only more elevated.

5th question, by same. State whether any change was made in the machine to which Zink attached the elevated seat, or whether it was in all other respects, except the form of the seat, like the others of the fifty machines built by you and Zink, and whether any change of the machines, as manufactured by you and him, to accommodate them to the elevated seat, or to the use of that seat, was necessary.

Answer. There was no other change in said machine than the elevated seat, neither was any change in the fifty machines referred to, necessary to accommodate them to the elevated seat. The elevated seat could be attached to them all without any change.

6th question, by same. Prior to this elevated seat being attached by Zink, state whether you heard objections made to the board seat, and what objections, by whom, and to whom?

Answer. From the commencement of the machines, every man that came about the shop objected to the low seat, and every one who knew anything about machinery said it would not answer in consequence of its low position, and the cramped position in which the raker had to sit. I cannot say positively whether this objection was made to McCormick or not by others, but it was by myself and Zink.

7th question, by same. State whether you have, since that time, had anything to do with these reaping machines, or seen any other elevated seat than the one Zink put on, or know what seats McCormick since used or now uses.

Answer. I have not examined or even seen one of McCormick's reaping machines since, and do not know what kind of a seat he has used, or now uses. Further deponent saith not.

WILLIAM J. LEWIS.

October 11th, 1851.

Not having any authority to take the above depositions or any knowledge of the matters, we feel compelled to disclaim any right to cross examine or in any way to interfere in the case.

KING, ANDERSON & HERRON,
Attorneys at law.

(*No.* 18.)

David G. Rose being carefully examined and cautioned, and duly sworn to testify the whole truth and nothing but the truth, saith:

Question 1st, by defendants. Are you acquainted with the parties, plaintiff and defendants in the above entitled cause, and how long have you been acquainted with them or either of them?

Answer. I have no acquaintance at all with the defendants or either of them; I formed a slight acquaintance with Cyrus H. McCormick, in the year 1846, or 1847.

Question 2d, by defendants. State your age and occupation, and residence, and how long you have resided at your present place of residence.

Answer. I am 33 years of age; my occupation is that of a farmer; my residence is Laporte, Indiana. I have resided in Laporte county 15 years.

Question 3d, by defendants. Did you ever purchase a reaping machine known as McCormick's reaper; if yea, of whom did you purchase it, when and where did you make the purchase, and when and how much did you pay for it?

Answer. I did purchase such a machine of Mr. J. M. Hite, at Laporte, Indiana, in the month of March or April, 1845, and paid for it the sum of $75, at the time and place of purchase.

Question 4th, by defendants. In what capacity did Mr. Hite profess to act in making sale of said machine to you? If as agent, of whom? State fully about his agency and all you know about it.

This question objected to by plaintiff's attorney.

Answer. Mr. Hite stated to me during the negotiation, that his father was interested with Mr. McCormick in the machines, and that he was acting as agent for Mr. McCormick and his father. He sold the machine to me as such agent.

This answer is objected to by plaintiff's counsel.

Question 5th, by defendants. You state in answer to the 3d question, that you bought the machine in March or April, 1845. State now according to the best of your recollection, whether it was March or April, and also your reasons for fixing it during such month.

Answer. According to my best recollection it was in the month of March; because during the term of the Porter circuit court, about the 4th or 5th of March of that year, I received an amount of Pittsburg money, out of which I paid Mr. Hite; I have no positive recollection of the time of paying it, but my best recollection is that it was soon after receiving it.

Question 6th, by defendants. What, if anything, was said in your contract with Hite about a seat for a raker on the machine? Where was the seat to be located, and did the seat place the raker's back or face to the team drawing the machine, and did Mr. Hite produce and show to you a handbill or other paper relative to said machine? If so, produce such handbill or other paper or one like it, to be annexed to your answer to this question. State fully about it, and also whether the machine so bought had a raker's seat upon it, and where and how it was located on the machine, and did it place the raker's face or back to the team drawing the machine?

Objected to by plaintiff's counsel.

Answer. Mr. Hite did not profess to be familiar with the construction or operation of this machine, but for particulars referred to a descrip-

tion of the machine by Cyrus H. McCormick, and the certificates and communications of persons in relation to its construction and operations, contained in a handbill or extra of one of the Cincinnati papers, the Cincinnati Daily Enquirer; it is my recollection that the one now produced is precisely like the one produced to me by Mr. Hite. I do know that the most of the certificates and the description and letters of McCormick of March 1st, 1845, are the same on this as on that. I here produce to you this handbill or extra to be annexed to my answer which is signed by me. I do not know where the one shown me by Mr. Hite is now. The said machine bought had a raker's seat upon it; it was outside of the fingers at the end of the reel, and pretty much over the driving wheel, and just so that they could not sit on it and do good work; it did not place the raker's back or face to the team when the raker was at work.

This answer was objected to by plaintiff's counsel.

Question 7th, by defendants. In answer to the 6th question, you state that the raker in his seat at work would not have his face or back to the team; will you describe what his position would be, and which way would he face? Describe it fully.

Answer. I do not know that I could describe it more fully than by saying that he would face diagonally across the platform when at work.

Question 8th, by defendants. What efforts did Mr. Hite make in your neighborhood to make sales of said machines, and what use did he make of the extra or handbill above alluded to by you, to induce persons to purchase said machines?

Objected to by plaintiff's counsel.

Answer. He made very energetic efforts to make sales and procure orders, and he used the handbill as giving a more accurate description of the construction of the machine and its operations. I aided him as far as I could in the village, but I do not remember of going with him into the country, and I was referred to for information as to the standing of the writers of many of the certificates contained in the handbill.

Question 9th, by defendants. Do you know of any other person by the name of J. M. Hite, acting, or pretending to act as agent, or otherwise, in selling said machines, than the one of whom you bought, and where was his residence?

Answer. I do not; his residence is in Virginia, I think in Frederick county, but am not certain as to the county.

1st question, by plaintiff's attorney. Where is the extra or handbill you have referred to in your direct examination as produced and shown to you by said Hite?

Answer. The precise handbill shown to me by Hite may have been lost or worn out by use in exhibiting; I have no knowledge of its fate.

2d question, by plaintiff's attorney. Do you know of your own knowledge, that said handbill or extra referred to in the last cross interrogatory is lost or worn out?

Answer. I do not.

3d question, by plaintiff's attorney. Do you know of your own knowledge, whether the said plaintiff wrote or published the letter, or drew up, or published the description mentioned by you in your answer to the 6th direct interrogatory, or was in any way cognizant of the publication of the said handbill or extra?

Answer. With regard to the first item in the interrogatory, I say no, and as to the rest of the question I have no personal knowledge.

4th question, by plaintiff's attorney. Do you remember exactly where the raker's seat you have spoken of was located? If yea, describe its locality as near as you can.

Answer. I cannot give a description of the location of that seat with sufficient accuracy to be relied on in court, for it has been five years since I saw that machine in operation.

5th question, by plaintiff's attorney. Was the seat on the machine you purchased used by the raker; if yea, please state how and in what manner, and how long, and was it useful or otherwise?

Answer. The machine I bought was very imperfectly constructed, and was used but little by me, but in the trials made with it the seat was found inconvenient, and therefore was seldom used, the raker walking by the side of the machine as raked.

6th question, by plaintiff's attorney. May you not be mistaken as to the time you paid out the Pittsburg money, and as to the time intervening between your receiving it and your paying it out to Hite?

Answer. It is possible, but not very probable.

1st question, by defendants. You stated in answer to the third cross interrogatory that you have no personal knowledge that McCormick was cognizant of the publication of the handbill or extra referred to in the 6th direct interrogatory; state if you have, at any time since your said purchase, heard said McCormick say anything about the publication of that handbill or extra, and if so, what?

Answer. I cannot say anything of his agency in getting up said handbill, but he spoke of that handbill as being a paper that would be useful in making sales of his reapers; that conversation took place in Laporte, in the year 1846 or 1847.

Oct. 18, 1850. D. G. ROSE.

The handbill produced by this witness, as mentioned in his answer to the sixth direct interrogatory, is the same as that produced by Augustus C. Brown, and set forth above as No. 9.

(*No.* 19.)

McCormick's Reaper.

BROCKPORT, *March 20th*, 1846.

The undersigned respectfully offers his patent reaper to the farmers of New York and the western States generally; and while he believes that no labor-saving machine has ever been introduced into public favor more cautiously, and at the same time with more general satisfaction

to purchasers than his reaper, he has the satisfaction of being able to present it for the harvest of 1846, in a greatly improved state. He can now warrant the raking of the wheat from the machine to be accomplished with ease and completeness, by a man comfortably seated upon it, whose position may be seen from the cut in another part of this paper. This improvement was thoroughly tested in the last harvest, with the most signal success, and, as is believed, perfects the "Reaper." An account of its operation on the estate of the late Gen. Mills, of Mount Morris, by Samuel J. Mills, esq., is hereto subjoined.

This machine, unlike many of the improvements of the present age, is not now offered to the public either as an untried experiment, or only having been partially tested, and therefore not to be relied upon. It has been extensively and most successfully in use in Virginia since the harvest of 1842, and during the last two years has been extensively introduced into most of the wheat-growing States of the Union, completely silencing opposition. So wide has been its range of operations in the last harvest, that it would be impossible, in a publication of this description, to give all, or even very many of the numerous certificates that have been procured of its satisfactory performance. Handbills will be issued in the course of a few days by Messrs. Backus, Fitch & Co., of Brockport, Monroe county, containing not only a description of the machine, but the most full and unequivocal testimony of its usefulness and value to the farmer, by numerous individuals of the very first respectability who have used it and witnessed its operations. The terms on which this machine may be had, and the guaranty that will be given on its side, should induce every farmer whose lands and crops suit its operation to give it a trial, as, should it prove equal to the guaranty, it will do more than pay for itself in the cutting of a single harvest. Any person can make the calculation for himself. As improved, one man to rake, and a boy to drive the horses, will attend the machine, instead of two full hands as before; and from two to three acres more in a day may be cut by the improved, than by the old machine, by means of the greater ease with which it is done, which makes a great difference in a single harvest of any extent—say $25 or $30.

The reaper is warranted to cut from 15 to 20 acres a day, to save an average of a bushel of wheat to the acre that would be lost by ordinary cradling, to be durable, and not liable to get out of order, and the raking as stated above.

Price $100, payable on delivery at Brockport, Monroe county, New York, or time shall be given for good paper, drawing interest. The undersigned further proposes to send his reaper to any responsible farmer, (or farmers,) who may desire to make a trial of it alongside and on the same terms of any other, to be purchased or refused as decided on making such trial. The undersigned patentee of the machine has contracted with Messrs. Backus, Fitch & Co., of this place, experienced, well known, and established manufacturers, for the making of a large number of reapers for the ensuing harvest, to whom orders may be directed. Many orders have been already received from the west,

as well as from the surrounding country; therefore, any persons desirous of machines would do well to make early application, as it is not probable that all demands can be supplied.

C. H. McCORMICK.

From the Mt. Morris, N. Y., Spectator.

Mr. HARDING.

DEAR SIR: Having made a trial of Mr. Cyrus H. McCormick's reaping machine for cutting grain, I take pleasure in making a public statement of it agreeably to his wishes. Mr. McCormick, the inventor, introduced his machine here from Virginia; he did not arrive with it until the season for cutting wheat had nearly passed, and consequently cut only about thirty acres for me. The ground was level, being on the Genesee flats, though the surface was somewhat uneven, as it was a piece turned over last fall, when put into wheat, with a very heavy turf, and many of the sods still remaining on the top of the ground. But they seemed to form no impediment to its successful operation. The machine cut one peice of twenty-five acres in a little less than a day and a half, averaging about two acres per hour for the time it was in operation. The wheat cut, if well filled, would yield about thirty bushels to the acre. The grain was cut cleaner and more even than could have been cut with the cradle or sickle. It is drawn by two horses with ease, and is attended by a man to rake, and a boy to ride and drive. The raker rides on a seat attached to the machine, and takes the wheat off at the side in gavels, ready for binding. The machine is simple in its construction; the knife has a sickle edge, and plays horizontally, and is represented to cut one hundred acres or more without sharpening. The reel gathers the wheat for cutting, and lops it over on the table for the raker. I design to use the machine the next season. I have no doubt it would work well on up-lands, where tolerably free from stumps and large stones. A number of persons, who were present and witnessed its operation, uniformly, I believe, expressed much satisfaction. An incident occurred which may not be out of place to mention. Two cradlers, hearing that a machine was in the lot for cutting wheat, never having seen one, and believing that they could cut faster and better than any live machines, started with cradles in hand, with the determination (to use their own words) of "skunking it." As they reached the fence, in sight of the machine, and saw the rapid pace with which it moved, they hid their cradles in the crook of the fence and sloped off.

Yours, &c.,

SAMUEL J. MILLS.

Mount Morris, August 15th, 1845.

Gen. Braxton's certificate.

CHERICOKE, VA., *Dec.* 10*th*, 1845.

DEAR SIR: I have now used your reaper four seasons, and have no

3249.

reason to withdraw any thing I have said in its favor heretofore. It has fully met my most sanguine expectations, and I cannot think that any farmer, having once tried it, would ever again willingly go into harvest without one or more, as might be the size of his farm. I have never found any difficulty in keeping them in order; in fact much less than with the cradles. Although the two that I have work remarkably well, as you think your late improvements have so materially benefitted the reaper, I must request you to send me one for the next harvest.

Am, very respectfully, your obedient servant,

CORBIN BRAXTON.

To Mr. C. H. McCormick.

Gen. Cocke's certificate.

DECEMBER 13TH, 1845.

I have used one of Mr. McCormick's reapers, and am satisfied, experimentally, of its value as a labor-saving machine; and, furthermore, that it saves something like a seeding of the land, over and above the process of cradling. I have, therefore, ordered another upon the improved plan, at Mr. McCormick's recommendation.

JOHN H. COCKE.

CARLTON, *Dec.* 15*th*, 1845.

Having now used McCormick's reaper in three harvests, I willingly bear renewed testimony to its value. Under the belief that the late alterations in its construction can scarcely fail of enhancing its utility and diminishing the labor of raking, I have engaged a new machine for the next harvest.

ALEX. RIVES,
Brother of the Senator.

ELK HILL, *Dec.* 13*th*, 1845.

DEAR SIR: I cheerfully comply with your request to give you for publication my opinion in regard to your reaper. I do this the more readily, because I believe its introduction into general use would be a great public benefit.

In the commencement of the last harvest I put two reapers in operation in Elk island, in a field of 180 acres, at the same time I started 14 cradles in a high-land field at this place, of the same quantity of land; the reapers on the island and the cradles on the hill finished their work at the expiration of six days; there was not an hour's difference. If the cradles had been on the island instead of the high-land, I do not think they could have performed more than two thirds of the work. On the low grounds, therefore, where the harvest is generally heavy, I consider the "reaper" to be equal to 10 cradles; I found one cradle to be sufficient to open the way for the two reapers. This, with the addition of the drivers, the rakers, and five pickers up, stationed around the field to each reaper, constituted a force of fifteen hands, not estimating the shookers. The 14 cradles on the hill were followed by an

equal number of pickers up, making 28 hands. If my estimate of the comparative labor of cutting with the sycthe on the high-land and low grounds be correct, it would have required 40 hands to cut and pick up the crop on the island in the same time that the work was done by 15 hands with the reapers. I have not estimated the labor of the horses, which were changed three times a day, as, in the time of harvest, they would otherwise be idle.

The labor of the hands, except that of the raker, is easier than in the harvest field where cradles are employed; and even the raker, when he becomes accustomed to the operation of the machine, and learns to be deliberate—waiting till the apron is pretty well filled with wheat before he rakes it out—finds his work very practicable. By changing places occasionally with the driver, the labor of both is comparatively easy. The reaper cutting across the beds on low grounds does far better work than can be done by cradles. I never saw a low ground field cut so clean as that on the island. There is far less loss, too, by scattering. The wheat being thrown in piles of three or four sheaves, there is a saving of one third of the number of pickers up. It has been customary to pay on this estate $200 harvest hire. In the last harvest I paid only $30. Another item of expense, by no means inconsiderable, which is saved by the use of the reaper, is the feeding of a large number of hands. I have seen it stated that the actual saving in wheat was half a bushel to the acre, and I should think it a moderate estimate. The construction of the reaper is simple. The knives did not require sharpening—just beginning to be rather dull at the close of the harvest. I think we saved more than the cost of the reapers, which are uninjured, except that the knives will require sharpening. We have besides two new knives to begin the next harvest, each reaper having an extra knife.

I have confined my remarks to the operation of the reaper on low grounds; but from an experiment of a day's cutting, they perform equally well on high land, where the wheat is good, and the land free from stumps and stones. I am so well satisfied of the utility of your reaper, that I shall want another on the other side of the river before the next harvest.

I am, dear sir, very respectfully, yours, &c.,

P. HARRISON.

To Mr. C. H. McCormick.

(*No.* 20.)

Extracts from bill of complaint.

Your orator further shows that by the summer of the year 1845, he had invented the improvements described and claimed in the specification accompanying the said letters patent of the 23d day of October, 1847, and that the said defendants did, during the winter of the year 1845, and during the year 1846, prior to the summer thereof, at Brockport aforesaid, manufacture and sell about one hundred reaping

machines, containing the said improvements described and claimed in said letters patent of the 23d day of October, 1847, and constructed substantially in conformity therewith, and known as "McCormick's reapers;" which said one hundred reaping machines were made and sold under a license given by your orator to said defendants to make and sell them, and for which license the said defendants paid to your orator, according to his best recollection, the sum of twenty dollars upon and for each of said reaping machines; and that the said defendants did, during the winter of the year 1846 and during the year 1847, prior to the summer thereof, at Brockport aforesaid, manufacture and sell about two hundred reaping machines, substantially identical with the said one hundred reaping machines, and also known as "McCormick's reapers," which said two hundred reaping machines were also made under a license given by your orator to the said defendants to make and sell them, and for which license the said defendants paid to your orator, according to his best recollection, about the sum of thirty dollars upon and for each of said two hundred reaping machines, the purchase price of which was paid to said defendants; which three hundred reaping machines so made and sold by said defendants were, as your orator believes, nearly all of them sold to be used in the western and northwestern States. And your orator further shows that during the winter of the year 1847, and during the year 1848, prior to the summer thereof, the said defendants did, at Brockport aforesaid, manufacture and sell, according to your orator's best recollection and belief, about one hundred reaping machines, substantially identical with the said three hundred so previously made by said defendants, and also known as "McCormick's reapers," which last named one hundred reaping machines were also made under a license given by your orator to said defendants to make and sell them, and for which license the said defendants paid to your orator, according to his best recollection, upon and for each of said last named one hundred reaping machines, the purchase price of which was paid to said defendants, the sum of twenty-two dollars and fifty cents upon and for each machine sold in the western part of the State of New York, the sum of twenty-five dollars upon and for each machine sold in the State of Ohio, and in the Wabash valley in the State of Indiana, and the sum of twenty-seven dollars and a half upon and for each machine sold in northern Indiana and Michigan; the western part of the State of New York and the States of Ohio, Indiana and Michigan, being the only parts of the United States in which the said defendants had such license to sell said machines for the harvest of the year 1848; and your orator having for the harvest of the year 1848 established a manufactory of such reaping machines at Chicago, in the State of Illinois, and sold five hundred of them containing said improvements claimed in said letters patent of the 23d day of October, (1847,) at that place for that harvest, and having received a fee of thirty dollars upon and for each one of one hundred of his said reaping machines containing said improvements claimed in said letters patent of the 23d day of October, 1847, made

and sold by a license of your orator at Chicago, for the harvest of the year 1847, and having also received a fee of thirty dollars upon and for each one of about forty of his said reaping machines containing said improvements claimed in said letters patent of the 23d day of November, 1847, made and sold, by a license of your orator, in Illinois, for the harvest of the year 1848, and having also received a fee of thirty dollars upon and for each one of about one hundred of his said reaping machines, containing said improvements claimed in said letters patent of October 23d, 1847, made and sold by a license of your orator in Illinois, for the harvest of the year 1848.

And your orator further shows, according to the best of his recollection and belief, that during the winter of the year 1845, and during the year 1846, prior to the summer thereof, licenses of your orator, at Brockport aforesaid, other than the defendants, made, and during that time and in the years 1846 and 1847, sold about eighty of said reaping machines, containing said improvements, claimed in said letters patent of the 23d day of October, 1847, for which license your orator received compensation; and that during the winter of the year 1847, and during the year 1848, prior to the summer thereof, licenses of your orator, at Brockport aforesaid, other than the defendants, made and sold about seventy-five of said reaping machines, containing said improvements claimed in said letters patent of the 23d day of October, 1847, and for which license your orator also received compensation. Your orator further shows, that during the winter of the year 1848, and during the year 1849, prior to the summer thereof, the defendants, at Brockport aforesaid, made and sold, with the permission of your orator, a few reaping machines, substantially identical with the said four hundred so previously made by the defendants, and also known as "McCormick's reapers," for making and selling which machines the said defendants agreed to compensate your orator. And your orator further shows that, between the summer of the year 1848 and the summer of the year 1849, he made at Chicago, in the State of Illinois, about fifteen hundred reaping machines, containing the improvement lastly claimed in said letters patent of October 23, 1847, over fourteen hundred of which reaping machines were sold by your orator during that time, at Chicago aforesaid; and that during the same period, about one hundred and fifty reaping machines, containing the improvement lastly claimed in said letters patent of October 23, 1847, were made and sold by licenses of your orator, and for which he received compensation. And your orator further shows that he has now nearly completed, at Chicago aforesaid, about sixteen hundred reaping machines containing the improvement lastly claimed in said letters patent of October 23, 1847, all of which have been made since the summer of the year 1849, and all of which your orator intends to sell in season for the harvest of the year 1850; and your orator states and shows that if the said defendants shall be permitted to sell the reaping machines hereinafter described as now being in the process of construction by them, your orator's sale of the said sixteen hundred reaping machines so being made by him will be materially injured.

3295

(*No.* 21.)

Jacob Sutphen being by me duly sworn to tell the truth, the whole truth, and nothing but the truth, deposeth and saith as follows:

I reside in the town of Sweden, Monroe county, and am a farmer; have always worked at farming, and have carried it on for myself about 26 years; have lived in the town of Sweden since 1827; I am acquainted with the machines which were manufactured at Brockport, by Backus, Fitch and Co., called McCormick's Virginia reaper. Their manufactory was about a mile and a half from my house. I am very little acquainted with that reaper, except the one I used; I first used one of their machines about 4 or 5 years ago last harvest, can't tell exactly without turning; it was the first year they were made in Brockport extensively. I obtained my machine at Backus, Fitch & Co.'s shop, in Brockport. There were four of us in partnership when we bought it, and we cut about 70 acres of wheat. It had a seat on it for the raker; I rode on it, and did the raking for most that it did; occasionally some others rode on it for experiment. The seat was directly above the right hand end of the finger pieces; I stood on the finger piece for a foundation. The seat was nearly in rear of the driving wheel, a little outside; it was a wooden seat, made of basswood, running horizontally crosswise the finger pieces. There was a stancheon at the back, and a cross piece in front, against which I leaned. The plank was cut out on each side for the legs, and the centre passed through between the legs to the cross piece before mentioned. As the machine was constructed, I could sit upon it and do the raking when the wheat was light and the ground smooth; I did not depend upon the seat during the harvest spoken of; the straw was not light, and I stood on my feet nearly all the time. One could not do the work as well sitting as standing; he could do it, but not as well; perhaps it would depend upon the structure of the person somewhat, whether it would be most convenient to stand or sit; some persons might choose to sit, but I did not; I think it would not be as convenient for any person to sit as to stand. I cannot say positively that we made any alterations. I think we reduced the width of the seat, but can't say positively; it was often talked about. It was reduced, if at all, between the legs, so that the knees could be brought nearer together. I think we made the seat narrower between the legs. As the machine was first made, it made me very sore and lame in every limb and muscle to manage it. It was a bad harvest to gather—the wheat was badly tangled, straw very heavy, only 3 or 4 acres of it that stood up, and there was lodged spots through all the rest. As first constructed, the machine chafed me very much, hurt my elbows on the cross bar or front piece, which I rounded, and nailed sheep-skins on it; the seat chafed my legs on the back of them and between them, and made them very sore. The jolting was also very severe; the driving wheel was so small that it fell to the bottom of all the dead furrows, and I was obliged to stand on my toes to prevent the sudden jars occasioned by the fall of

the machine into the holes and dead furrows. To relieve this we had an elliptic spring made and put on the finger piece, under a plank for the feet to stand on, but this raised me so high above my work that we were obliged to take it off.

Question, by Mr. Selden. Do you consider the seat of any use, provided the raker was secure from falling off the machine without it?

To this question the plaintiff's counsel objected, on the ground that it is a question for the jury on the facts, and that the opinion of the witness is not proper, and that the question is leading. The answer of the witness, by consent of the court, taken, subject to objection.

A. I answer, no; but yet I can't tell what improvements might be made. The seat, as a seat, was of no use; the raker could not stand without something to hold to, and the seat was useful to keep the raker from falling off; I don't think any person would prefer to sit, but would choose to stand, provided there was something to hold on to, so that he should not fall off.

Q. Does it, or does it not, require the exercise of a good deal of strength to rake off the grain while the machine is in operation?

A. It does require all the strength of a muscular man. It does so, I might say, a thousand times in a day. The strain comes mostly upon that part of the seat that comes between the legs; it is divided between that and the feet.

Q. If you had a suitable position for the feet, with breadth enough between them, could you do the raking as well without any support from the piece between the legs as with it, provided you were secured from falling off from the machine?

A. I don't know as I can tell, never having had any experience with any other machine; have never used any other machine. I returned the machine that I used to the manufacturers; returned it same season, after the harvest spoken of, in the fall or winter.

This witness, on his cross examination by Mr. Hastings, counsel for the plaintiff, *he* says, the ground on which I used the machine was some of it rough and some of it smooth; pretty near one-half of it was rough, and some stony, and all of it had dead furrows. Some of it was not left as smooth as it might have been. On the four acres spoken of, where the wheat stood up and the straw was lighter, I stood up to reap that, but I might have set down on the seat. Occasionally I rested on the seat, not as I would sit on a chair, but to relieve me, or to rest. I presume I used the seat to rest on when I turned round a corner with the machine; but I think I was not so apt to sit at turning as when going straight along. There was a difficulty in spreading the feet while standing so as to be sufficiently broad while the machine was going. The difficulty was, I could not move my position so as to reach the straw, and then have room to move it from the apron. When the wheat is stout it is hard work to do the raking. Sometimes we took from 5 to 9 sheaves from one continuous pile. Sometimes this would occur 2 or 3 times an hour. This occurred only the last day we used the machine. When this occurred the wheat might be strang

along for a rod or two, butts and tops promiscuous. This was when the wheat was tangled, and I was exhausted in raking. In further explanation of the difficulty of spreading my feet, my right heel would come in contact with the driving wheel, and my heel would go off the end of finger board.

JACOB SUTPHEN.

Oct. 17, 1851.

(*No.* 22.)

Perry Smith, being by me cautioned and duly sworn to tell the truth, the whole truth, and nothing but the truth, deposeth as follows:

I am 59 years of age; I reside in the town of Sweden; am a farmer, and have carried on that business in Sweden 30 years. I am acquainted with a reaping machine called McCormick's Virginia reaper. I was part owner of the one spoken of by Mr. Sutphen. I was one of the four owners spoken of by him. I rode on it and raked but a very little. Got on a few times for experiment. I was not tough enough to stand it, as originally constructed. I think one could not well stand up so as to work to advantage, because the part of the seat passing between the legs was so wide that it spread the feet so far apart that there was not room enough on the finger board. Sutphen and I narrowed this by enlarging the circle on each side of the seat between the legs. This made the space for the legs larger all round. It was our object to do this as well as to narrow the seat between the legs.

Q. If the raker has a piece in front to support him, and sufficient breadth for his feet, would the piece between the legs, or any seat for the raker to sit upon, be of any service to the raker?

Objected to by plaintiff's counsel, on the ground that the question calls for the mere opinion of the witness. Answer taken subject to the objection, by consent of counsel on both sides.

A. I think not. I think the raker might stand then without it.

Q. Would not the piece between the legs and the seat, immediately in rear of it, be an inconvenience, rather than a benefit, supposing the raker to be otherwise supported in front?

Objected to as leading and calling for a mere opinion. Answer subject to objection, by consent of counsel on both sides.

A. I should think it would. I should think that a person ought to have room to move the whole body without being confined by the stick between the legs. When I raked I depended more on the front piece than the stick between the legs.

Q. Does the raker, in raking off the grain, have to turn his body round; and if so, how far?

Objected to by plaintiff's counsel on the ground of immateriality, and that the question is leading. Answer taken subject to objection, by consent of counsel on both sides.

A. A person would rake off without turning his body; should think it be with that as in raking hay—a person can sometimes rake easier by

turning his body. We returned the machine to the manufacturer. Sutphen and I took it home.

Q. For what reason did you return the machine?

Objected to on the ground that the answer is immaterial, and the answer would be a mere opinion. Answer subject to objection.

A. There were two reasons. One reason was that it was a hard concern to rake off, and another was that it did not cut worth a cent and clogged badly, and we thought it was not worth keeping.

This witness, on his cross examination by Mr. Hastings, counsel for the plaintiff, says, I did not rake on the machine at any one time as much as an hour. I did not rake more than ten or fifteen minutes at a time; only went partly round.

PERRY SMITH.

October 17, 1851.

(*No.* 23.)

Frederick P. Root, being cautioned and by me duly sworn to tell the truth, the whole truth, and nothing but the truth, deposeth as follows: I reside in the town of Sweden; am a farmer. I have obtained a patent for a grain cleaner. I have been engaged in the manufacture of threshing machines in Sweden some four or five years. I am acquainted with McCormick's reaping machine; I used one in 1845–'6–'7. I purchased one and used it a part of the season; I think it was in 1846. I bought it in company with one of my neighbors the same reason that Mr. Sutphen and Smith and others bought theirs. I did raking on it myself. The raker could not sit down on the machine and do the raking to advantage; he might do it in light grain, he could not do it in heavy grain at all, as originally constructed. I don't think a man could stand up and endure raking any considerable time on account of the difficulty of standing. The seat was so constructed and the space it occupied between his legs, that machine jolted so severely that it seems to me I could not endure it an hour's time without tearing me all to pieces.

Q. Have you used Seymour & Morgan's machine, such as they constructed for the harvest of 1850?

Objected to on the ground of irrelevancy, and that all testimony as to that machine and the use of it by this witness is irrelevant; mere matter of opinion. Answer subject to the objection.

A. I did use one of their machines in 1850, the same as all others constructed by them that season, except some little difference in the gearing. I saw a large number of their machines constructed that year, both at their shop and in other places. Those machines had no seats for the raker and no place where the raker could sit and do the raking. I used my machine made by Seymour & Morgan myself, and raked 40 or 50 acres of grain several days in succession.

Q. Is there any difference as to the ease with which the raking is done upon the two machines? And if so, describe the difference and the cause of it.

Objected to on the ground that it is immaterial and incompetent. Answer subject to the objection.

A. There is a difference in favor of Seymour & Morgan's machine, according to my experience. The difference consists in this, that a person standing upon his feet, and having the free use of his body, can do the raking much easier than if his body is confined. A man having a seat between his legs cannot move his body below his middle, and sitting upon the seat must be more severely jolted than if standing on his feet, especially if the seat passes between his legs. Where there is no seat, and the raker stands upon his feet, he has the free use of all his muscles, and can do the work with much more ease; and I would say that he could do the work when a man could not do it while sitting upon a seat. I have used machines with seats constructed in different ways—in three different ways, I believe—and am satisfied that a standing position is the only one in which a man can do his work well and with ease. I have found seats to be no advantage, but rather an inconvenience.

This witness, on his cross examination by Mr. Hastings, says, I think I used the first machine in my field a few days; had it in my field a week, I think, and in all raked upon it two days—not two days in succession. I could not endure it. If the seat and front piece of McCormick's machine were taken off, a man could not stand on the machine and rake, he would fall off. The jolting of the machine would be likely to make him slip off forward. There would not be likely to be any danger of his falling off sideways, because he could brace himself; during the process of raking, the raker would naturally incline to the right and balance on his right foot. If while in that position the machine should strike a stone and he was obliged to fall, if he leaned to the right he would probably fall that way. When he had drawn the wheat up so as to throw it off to the left, I think he could not then balance on his left foot; his body would then be brought about in an upright position. When standing upright the raker would stand to the left of the driving wheel. If the machine should jolt while the raker was in that position, I don't know that he would be more likely to be thrown one way than another. The raker on bringing up to an upright position might then incline to the left, and balance on his left foot. It was very hard work to rake in heavy grain; the labor was very steady and hard. I don't see that a man could find much relief by changing his position when the grain was not stout. There would be a little rest from one bundle to another when the grain was light. It is frequently the case in fields of wheat, that some parts are light and others stouter; some spots stouter than others; should think this was ordinarily the case.

The piece running between the legs, at the narrowest place in McCormick's machine, was from 5 to 6 inches wide; should think it might have been less, though I should think it was not wider than that. In Seymour and Morgan's machine the resting place for the feet was very much the same as that in McCormick's. There is also a

cross piece in front, same in principle as in McCormick's machine. There are straps of iron extending from each end of the cross piece in Seymour and Morgan's machine, to a box covering the gearing. The cross piece prevents the raker from pitching forward. There is a box to prevent his falling back, and a plate of iron projecting upwards from the box, and the two pieces of iron extending from each end of the cross bar are on the right and left of the raker.

The witness is shown a model in the possession of the defendant, and says it is about the thing. It is about a correct model of Seymour & Morgan's machine.

This witness, on his direct examination by Mr. Selden, defendants' counsel, says, I have seen Mr. Hussey's machine in use, but was not near enough to see exactly how it worked.

FREDERICK P. ROOT.

October 17, 1851.

(*No.* 24.)

Jeremiah Sheppard, being by me cautioned and duly sworn to tell the truth, the whole truth, and nothing but the truth, deposeth as follows: I reside in Brockport, in the town of Sweden. I am aquainted with McCormick's reaping machine; first became acquainted with it in 1844. I think the first I saw was manufactured in Virginia, as McCormick told me—he said he brought it from Virginia. That was before the manufacture of their machines commenced in Brockport. That machine had no raker's seat; the raker walked beside that machine. I was employed by Mr. McCormick to put that machine in use. McCormick employed me and Ansel Chappell to rake off. We took turns in raking and riding the horse; no one rode on the machine. The driver rode on one of the horses. I used that machine ten days that season. Chappell was not with me all the time. Chappell and I bought it after the first day's using. In 1846, Backus, Fitch & Co. wanted me to go into Orleans county and put some machines in operation that they had got put up there. I assisted in putting some 10 or 12 agoing that season. Those machines had seats on them for the raker. In putting them in use I tried them myself in doing the raking—all of them. Spent half a day with some machines, and with some not so much time. I could do the work a great deal the best with the machine as first constructed, the raker walking beside the machine. Work was done better by the machine without the seat than by the one with a seat. As McCormick's machine was originally constructed with the seat before, it was scolloped out. The raker could not stand or sit, and do the work as it ought to be done. All those machines had to be altered; the seats had to be cut out before they could be used. I saw McCormick frequently when those machines were building in the winter of 1845 and 1846. I heard him frequently telling and showing in what way the raker must sit in order to rake the grain off. He said it was designed for the raker to sit down on the seat. If I am not mistaken, he said the raker could not

stand up, but must sit on the seat. It is very hard work to do the raking on McCormick's machines that have seats. I could do the raking easier and better with those machines of McCormick's that had no seats, when the raker walked with them that had seats. I could not ride, it would tear me all to pieces.

Q. Then you think the machines better without the seats than with?

A. Yes.

The answer to this question was given by the witness before the counsel for plaintiff had time to object; and they desire an objection noted to the question, on the ground that it is leading. Answer taken subject to the objection.

Q. Which machine do you regard as the most valuable—the one with or the one without the raker's seat?

Objected to, on the ground that that is a question for the jury, and is irrelevant. Answer taken subject to the objection.

A. The one without the raker's seat. I have used Seymour & Morgan's machine, such as they constructed for the harvest of 1850, a very little; there are no seats for the raker on those machines; the raker could not sit on the box that covers the gearing of those machines, for the reason that the raker would sit so far forward on the machine that his rake would come in contact with the reel. I have seen Hussey's machine used; in Hussey's machine, the grain is laid off directly back of the machine, the butts towards the machine. In McCormick's, it is raked off at the side, the butts towards the standing grain.

Q. By which method of raking is the grain lain best for binding?

Objected to, on the ground of immateriality. Answer subject to the objection.

A. Hussey's machine lays the grain best for binding.

Q. Could such a seat as that on the machine constructed by Backus, Fitch & Co. have been attached to the machine which you purchased of McCormick in 1844, without any alteration of the machine or machinery?

A. I should think it might.

This witness, on his cross examination by Mr. Humphry, counsel for the plaintiff, says: I prefer a machine constructed so as to require the raker to walk on the ground, to any other machine. Have used Seymour & Morgan's machine a very little, and seen their work. Have not seen any machine made so as to require the raker to walk on the ground, since 1846, as I know of. Should think the seat of McCormick's machine passing between the legs was 5, or 6, or 7 inches wide between the legs. I helped scollop out some of the seats, so to make them as narrow as we could, and leave sufficient strength to support the cross piece. Can't tell how long we used the machine after the seat was narrowed. I never used any of McCormick's machines having a seat any length of time—used some ½ a day, some not so long. Was in the employ of Backus, Fitch & Co. They had put the machines up, and could not make them operate. I stayed

just long enough to start them. Since that time, I have used one single machine a good deal more than that. Hussey's machine lays the straw directly in the way of the machine, next time coming round. Hussey's machine could not be used unless the grain is got up before the team comes round again. McCormick's machine will reap without being followed up by binders, if the corners are rounded; and a whole field could be cut without the grain being taken away. This was an advantage of McCormick's machine over Hussey's. I heard the description given by Frederick P. Root, of Seymour & Morgan's machine. I think he gave a correct description of the machine they then built—that is, in 1850. The machines they have built since are altered. I have seen men using McCormick's machines with seats standing, and not sitting. I have not seen rakers using those machines, standing much. Have not seen as many using them standing as sitting. Grain in the year 1846 was heavy strawed, not more down than it generally is.

J. B. SHEPARD.

October 17, 1851.

(*No.* 25.)

George F. Barnett, being by me cautioned and duly sworn to tell the truth, the whole truth, and nothing but the truth, deposeth as follows:

I reside in Brockport; have resided there since 1827. I am engaged in the furnace and machine business, and the manufacture of agricultural instruments; am carrying on the business on my own account, in connexion with others. I superintended the mechanical department of the business; have been engaged at agricultural implements most of the time, since 1845. Prior to that time, I was a carpenter and joiner; worked at that business about 20 years; should think, before commencing the other business, 15 to 20 years. I have been acquainted with McCormick's reaping machines. In the year 1846, I superintended the construction of about 100 of those machines for Backus, Fitch & Co., at Brockport. McCormick was present occasionally, most of the time during the construction of those machines. The construction of those machines—that is, the 100 mentioned above—commenced about the month of February, 1846, and were completed for the harvest of that year. The patterns used at Backus, Fitch & Co.'s manufactory were duplicates of some got up at Seymour & Morgan's, under the superintendence of McCormick, as McCormick said. We constructed the 100 machines according to those patterns. As those machines were constructed, there was not room for me to stand up in the seat and do the raking, or while occupying the seat—that is, I could not stand and do the raking comfortably. I think an ordinary sized man could not stand up and do the raking comfortably in those machines. I am myself about a middle-sized man; I weigh about 150 pounds, and am about 5 feet 7 or 8 inches in height. The seat passing between the raker's legs seemed to cramp him, and the cross piece was too near.

3259.

Q. Did you speak to Mr. McCormick on the subject of enlarging the space for the raker, so that he could stand up and rake comfortably?

A. I have spoken to him about it. I think he said he thought the space was large enough.

Q. Did he say any thing on the subject, whether it was designed to have the raker stand up or not?

A. I think he said the seat was designed for the raker to sit down on.

Q. Did you afterwards enlarge the space for the raker? And if so, how much, and in what way?

A. I did enlarge the space for the raker in the machine that I superintended the construction of, by placing the cross piece farther forward from the raker; also by cutting out the seats somewhat more, allowing the legs of the raker to come nearer together. My impressions are, that the machines I spoke of superintending the manufacture of—that is, the 100 machines—were marked McCormick's improved reaper, patented January, 1845. I think that was the date, but may be mistaken as to that. I think, also, the manufacturer's name appeared on them. I think the whole 100 machines were marked in that way, but can't say positively. I assisted in putting one of McCormick's machines in operation in 1845. I was engaged to do that by Backus, Fitch & Co. It was in the month of July, 1845. I went with the machine to Geneseo and Mount Morris. We tried the machine in those places. Mr. McCormick and Ansel Chappell were with me in trying that machine. That machine had a raker's seat; the seat was similar to the seats of the 100 machines that I afterwards superintended the making of. It was not attached exactly in the same way. The position of the seat was very nearly the same as in those, if I recollect right. The seat in that machine was a plank scolloped out on each side, with board nailed on behind the raker for him to sit on, with a cross piece in front of the raker. I had a conversation with McCormick as to when that machine was made. He said it was made in Cincinnati, by a Mr. Brown, I think. I think that machine was not marked when patented—not marked as patented at all, I think. I don't recollect exactly, it might have been marked. I think McCormick said Brown had made 100 machines that year. My impressions are, that he said they had been sold; don't know whether he said they had seats; can't say positively that he did say whether they had seats. I think he said they operated well. I used a machine in the harvest of 1849, of the kind made by Seymour & Morgan for the harvest of 1850. The arrangement for the raker was similar to that of those made by Seymour & Morgan for harvest of 1850. There was no place on any of those machines for the raker to sit, and do the raking. There was a box on the machine I used in 1849, covering the gearing similar to that on those machines made by Seymour & Morgan for harvest of 1850. The raker could not sit on that box and do the raking when the machine was in operation, because the position of the raker would have been so near the end of the reel that his arms would have come

in contact with it. The box is also too far forward for the raker to sit on it, and manage the machine.

Q. Is the arrangement for the raker on the machines constructed by Seymour & Morgan for the harvest of 1850, substantially the same with the arrangement for the raker on McCormick's machines?

A. I think they are not.

Q. In what respect does the arrangement differ?

A. There is no seat for the raker on Seymour & Morgan's machine. I have seen Hussey's machine; there is a place for the raker to sit on those of Hussey's machines that I have seen. I saw the machine that McCormick brought to Brockport in 1844, which had no seat.

Q. Would there be any difficulty in putting upon such a machine as that a seat similar to those afterwards used by McCormick, without changing the gearing or otherwise altering the machine?

A. I should think there was not. I was foreman of Seymour & Morgan a part of the time they were constructing their machines for the harvest of 1850. Was their foreman from December, 1847, to April, 1850. The box over the gearing of a part of those machines was rounded off at the end, back of the raker.

Q. Do you know how it happened that those boxes were rounded off?

A. I do.

Q. Will you state the circumstances how it happened.

A. I was absent from the shop, at the city of Rochester. The man that made the boxes, by the piece, in my absence, took a box that was up stairs that was rounded off, and, as he said on my return, he supposed that I wanted them finished like the one up stairs. This answer was given me when I asked him why he had done it; as I had told him before that I wanted them made similar to the one, with that exception, as there was a plate of iron to be fastened on for the guards to pass through. I told him to make the remainder of them square. He said he would take those off that he had rounded, if I said so. I told him I would see if we could get along with them as they were.

(The whole of the foregoing answer to the last question was taken, subject to an objection previously made by the plaintiff's counsel for irrelevancy, and on account of the hearsay statements contained in it.)

Q. Have you ever made a careful estimate of the cost of McCormick's reaper, as manufactured by Backus, Fitch & Co., under his direction; and if so, what was it?

Objected to by plaintiff's counsel, on the ground of irrelevancy. Answer subject to objection.

A. I have; Mr. Ganson and I made an estimate on it.

Q. What did you make the whole cost of the machine, including the ordinary charges for making sales and putting the machine in operation, with an estimate of the average loss from the warrantees with which those machines were sold?

A. Sixty-four dollars and twenty-six cents.

Q. Does the paper now shown you contain the items of that estimate?

A. I think it does; the estimates contained in the paper shown me are, in my opinion, fair estimates.

The paper referred to is here received by me, and by me marked exhibit "A."

Q. What is the difference, if any, between the cost of McCormick's reaper and the reapers manufactured by Seymour & Morgan for the harvest of 1850?

Objected to by plaintiff's counsel as irrelevant, and answer subject to the objection.

A. I have not the estimate here; can't give the precise amount. Seymour & Morgan's cost more than McCormick's. My impressions are, that Seymour & Morgan's machine cost about $7 00 more than McCormick's; $7 00 to $10 00, or more.

Q. Was it necessary to have the iron across the back end of the gearing box, or something of that kind, to sustain the guards?

A. I think it was; it was necessary for convenience of shipping, so that the guards could be easily taken off and adjusted again, and so that it would be firm, and at the same time be easily changed.

Q. If one had seen Hussey's reaper in use, with the raker riding on the seat, would it in your opinion require anything more than ordinary mechanical skill to make the seat used by McCormick, and place it on McCormick's machine?

Objected to by plaintiff's counsel, on the ground that the question calls for the opinion of the witness on a matter and in a case where opinion is not evidence; and that it is irrelevant. Answer subject to objection.

A. I don't think it would require anything more than ordinary mechanical skill.

This witness, on his cross examination by the plaintiff's counsel, says: I have the machine McCormick said he brought from Cincinnati, at Brockport, in 1845. I was with that machine when it was put to use; I worked on it some; I raked on it.

Q. State what was the difference, if there was any, in the construction of that machine and those made by McCormick in 1846.

A. That machine, the frame work that surrounded the gearing was something in the form of a box, and the gearing was inside of this box, if I recollect right; the finger piece was attached on the rear part of this box. The reel post was a crooked one. I think the platform was similar to those of 1846. There was a bow on the outside to crowd away the standing grain, if I recollect right. There was no separating board on that machine; there was a dividing iron on that machine. I think there was a board, that stood up edgewise, commenced at or near the end of the divider and run back towards the back end of the platform; there was a crooked reel bearer attached near the back end of the platform, projecting forward, and running the left hand end of the reel—that is, the end opposite to the gear side of the machine. The tongue was framed into the front end of this box that enclosed the gearing. The machines of 1846 were similar

to the models produced by the defendant, except that the model has a dividing iron on it, and those made in 1846 had none. My impressions now are, that the box that surrounded the gearing of the machine of 1845 was about 18 or 20 inches deep, and about 3 feet or so across; might not have been quite that; it may have been about 4 feet long. I think the seat was attached to the forward end of the box. I think there was a tenon on the plank of the seat, which passed through a hole in the forward end of the box, and was keyed on the outside through the tenon. The seat plank extended backward over the back end of the box, and was raised above it, of sufficient height over the finger piece where the raker sat; the finger piece being attached to the rear end of the box, on the seat plank where the raker sat. There was a board, I think, nailed on top, crosswise of the seat plank, for the raker to sit upon; and to the outer and rear end of the seat plank there was bolted a cross piece or breast piece; this was to prevent the raker from falling forward. There was a foot board in addition to the finger piece; this was fastened to its place by a couple of crooked irons fastened to the end of the box; the finger beam not being wide enough for the raker to stand on. There was no board to the machine of 1845 that we called a wheel board. On the machines of 1846, the object of the wheel board is to keep the straw from catching at obstructions on the machine and getting tangled down. The hundred machines that McCormick spoke of his having had made in Cincinnati, were made the same season as the one which I made in 1845.

Q. Do you not remember that McCormick said in speaking of the machine he brought from Cincinnati, that it was made on a better model than the 100 he had spoken of?

A. I don't remember it.

The plate of iron extending across the box, I suppose, was intended for the guards to pass through, and to support the guards. What the projection above the box was for, I do not know. I was not there when it was put on. I don't know that I ever heard it by him, the defendant, that that plate was to prevent the raker from sitting down on the box; don't know as I have any impression that I heard any such thing from them. In 1847, while I was foreman of the defendants, I think I heard the defendants say they were making machines in pursuance of a contract with the plaintiff, but am not positive; my impressions in 1848 were the same, that the defendants were making machines in pursuance of such a contract, but I don't know as I got it from them. The lever that works the sickle was placed on the outside of the box of the machine brought from Cincinnati in 1845.

Q. Did you ever hear the hands, any of them, state in substance that the iron plate on the back end of the box was made to project above it, with a sharp edge to prevent the raker's sitting on the box; or any thing like that in the presence of the defendants, or either of them?

Objected to by defendants' counsel.

A. I don't know that I ever did. I made the machine which I used

in 1849; that is, I superintended the construction of it. It was made at defendants' shop.

Q. Do you remember that the foot board, of which you have spoken, was independent of the finger bearer, and that it had cleets on it for the purpose of keeping the feet of the raker in their place?

A. If my recollection is right, the foot board was fastened, as I before stated, with crooked irons independent of seat next to the finger piece, with cleets nailed on for that purpose. The gearing of the machine of 1845, I think, was not all immovable. I may be mistaken however about that. If any part was movable, I think the whole must have been, if the gearing was stationary. The finger piece must be made so as it could be raised or lowered, so that the machine could cut high or low.

On his direct examination by defendants' counsel, this witness says: There were no dividing irons put on the machines manufactured by Backus, Fitch & Co. in 1846. There was no wheel board on their machines.

GEORGE F. BARNETT.

Oct. 17, 1851.

(*No.* 26.)

Charles M. Gray, being carefully cautioned and examined, and duly sworn to testify the whole truth and nothing but the truth, saith, as in answer to the interrogatories, as follows:

Interrogatories by defendants.

Interrogatory 1st. What is your name, age, and occupation, and residence?

Answer. My name is Charles M. Gray; my residence in Chicago, Illinois; my age is forty-three years; my occupation from my boyhood, until within about a year and a half, has been that of a machinist.

Inter. 2d. Have you ever been engaged in the manufacture of McCormick's Virginia reaper in partnership with the plaintiff or otherwise? If so, where, and to what extent?

Answer. I have been engaged in such manufacturing in company with the plaintiff, and also alone, in the city of Chicago, in the years 1847 and 1848. In the year 1847 I manufactured one hundred machines alone. In the year 1848, in company with the plaintiff, we manufactured five hundred machines.

Inter. 3d. State who kept the accounts of such business; and what, if you know, was the cost of such reapers, including all proper charges and outlays in manufacturing the same? Give the items of such cost as near as you can.

Objected to by plaintiff.

Answer. I kept the accounts of such business. My machines in the year 1847 cost me fifty-five dollars, as near as I can get at it. The next

year they cost not quite fifty dollars. The items of cost are, for the year 1848:

Pr. lumber, five dollars.
" Unwrought iron, seven dollars and a half.
" Castings, seven dollars.
" Iron finishing, three dollars.
" Smith work, three dollars.
" Sickles, four dollars.
" Painting, one dollar and fifty cents.
" Belt and nails, one dollar.
" Carpenter work, fitting the machine, twelve dollars.
" Superintending the construction, book-keeper and extra labor, two dollars.
" Wear and tear of machinery, engineer and oil, three dollars.

Inter. 4. What was the cost of orders, and putting the machines in operation in the field, loss on bad debts, and the amount of capital required to manufacture each machine, and the time the capital was required?

Objected to by plaintiff.

Answer. The cost of orders was four dollars each, and up to five dollars. Putting in operation the machine cost me, on average, three dollars and a half. The loss in business, the first year, for bad debts was ten per cent. The second year's business I cannot tell, as it is not closed up. The capital required on each machine is thirty dollars per six months.

Inter. 5th. Were the machines warranted? if so, what was the average cost of making good such warrantee as near as you can estimate it?

Answer. They were warranted, and such average cost was about a dollar.

Cross interrogatories by plaintiff.

Cross interrogatory 1st. Do you know, and can you state, whether or not, since the year you first commenced manufacturing such machines, the facilities for their manufacture have been or may have been greatly increased by the plaintiff, and whether the manufacture of a much greater number of machines, the decline in the price of iron and other materials, the purchase on a much larger scale of the materials necessary for the construction of such machines, would not greatly decrease the expense of their construction? and whether there would not be a proportional decrease in all incidental expenses?

Answer. I know that the plaintiff has manufactured a great many more machines each year than we did. From the reasons mentioned in the interrogatory, I should suppose the cost of the machines would be less to a greater or less extent.

Cross interrogatory 2d. Have you very accurate means of judging the cost of your machines; and is your estimate of items of cost based upon a positive knowledge?

Answer. My means of judging the cost of machines is from mem-

ory. I cannot be far out of the way. I did not refer to any books. I had the general superintendance of the business while in company with plaintiff. The estimate is from positive knowledge, as my memory serves me.

Cross interrogatory 3d. Can you show from your books what was the actual cost of the machines in the year 1848? and would not that be more reliable?

Answer. I suppose I can, and that would be more reliable.

Cross interrogatory 4th. Do you know, and are you well acquainted with the machines manufactured by yourself and plaintiff when in company, and by the plaintiff since your separation? Are you also well acquainted with the construction of the defendant's reaping machines for the year 1850?

Answer. I am well acquainted with the machines made by myself and plaintiff when in company. I cannot say that I am well acquainted with the machines made by plaintiff since our separation, not having seen but three that were put together. I am not acquainted with Seymour & Morgan's machines.

Interrogatories by defendants.

Interrogatory 1st. What improvements to his machines has plaintiff adopted, made or suggested by you?

Objected to by plaintiff.

Answer. The form of the tooth, and manner of setting.

CHARLES M. GRAY.

Subscribed and sworn to before me this 17th day of October, A. D. 1851.

J. W. CHICKERING,
Commissioner, &c.

(*No.* 27.)

Theoren Pardee being carefully cautioned and examined, and duly sworn to testify the whole truth, and nothing but the truth, saith, as in the answers to interrogatories, as follows:

Interrogatory 1st. What is your age, place of residence and business?

Answer. My age is thirty-five years; my place of residence is Chicago; my business is warehousing.

Interrogatory 2d. Have you ever been engaged in the manufacture of McCormick's Virginia reaper in partnership with plaintiff and others, or otherwise; if so, when, where, and to what extent?

Answer. I have been engaged in the manufacture of McCormick's Virginia reapers in company with plaintiff, William B. Ogden, William E. Jones, Mahlen D. Ogden, and Edward H. Shelden, for the harvest of year 1849, in Chicago. We manufactured about fifteen hundred reapers.

Interrogatory 3d. State who kept the books in such business, and what, if you know, was the average cost of each reaper, including the cost of obtaining the orders for the reapers, putting them in operation,

bad debts, expenses of collection, and making good the warrantees, and all other proper items entering into the cost of the same; give each item as near as you can.

Objected to by plaintiff.

Answer. I kept the books of said firm; as near as I know, the cost of manufacturing the reapers was from forty-five to forty-seven dollars; in addition to which, the cost of obtaining each order and putting the machines in operation was about six dollars. I don't know about bad debts, I only know as to the cost of collecting a small portion of the notes, which I should think was about a dollar a machine, which is something less than the average cost, as these collections were made by contract with our agent more favorable than the majority of other contracts. I don't know the cost of making good the warrantees. The report of our agents was, that the machines that year gave better satisfaction than before that time. There were some failures, but the proportion was small; I cannot now give the items of the cost of constructing the machines.

Cross interrogatories by plaintiff.

Cross interrogatory 1st. How do you come to the conclusion that the cost of the machines was forty-five to forty-seven dollars; is it a mere estimate or approximation, or is your knowledge of cost definite and positive?

Answer. My conclusion as to the cost of the machines is based upon a knowledge of the books. It is an estimate in part, and is not positive as to the actual and full cost.

Cross interrogatory 2d. Can you give, definitely, the cost of any of the items composing the expense of manufacturing the machines? If yea, do so.

Answer. The cost of sickles was, I believe, about three dollars and a half, but I do not know certainly, without reference to the books; I cannot state positively the cost of any item.

Cross interrogatory 3d. Do you know whether the plaintiff proposed and obtained a contract from McCormick, Ogden & Co., for the manufacturing the reapers for the year 1849? If yea, state, if you know, how much was to be paid for each reaper; and whether such contract was abandoned; and why, and by whom.

Answer. I know there was such a verbal contract; the price to be paid for each reaper was forty-five dollars, exclusive of the use of the building and machinery and the interest on capital. It was abandoned principally because Mr. McCormick claimed the privilege of returning all ordered materials at their cost, rather than at their actual value. The value of the real estate improvements, machinery, and tools, was estimated to be worth thirty thousand dollars; the cost of the machine will determine the other capital employed.

Cross interrogatory 4th. You state that you were concerned in the manufacturing of fifteen hundred of McCormick's reapers in year 1849; state if said plaintiff purchased the interest of the other parties after the close of the year's business, and at what rate of profits.

3263.

Defendants object to that part of the interrogatory asking about profits.

Answer. Such purchase was made at the rate of thirty-six dollars each machine, less one dollar and a half costs of collecting, and exclusive of any patent fee, for which, by the articles of co-partnership, the company were to pay twenty-eight dollars for each machine which was sold for all cash; and thirty dollars for all machines for which any credit was given where the whole amount was collected, subject to a reduction of three-sevenths of any amount uncollected on any machine after the collection of fifty dollars on any machine.

Cross interrogatory 5th. What did the plaintiff make upon each machine manufactured by McCormick, Ogden & Co.?

Answer. On each machine paid for in cash, at the time of sale, he made, including patent fee, sixty-four dollars; on each machine sold partly on credit and fully paid for, including patent fee, sixty-six dollars, on the supposition that the costs of collecting did not exceed one dollar and a half for each machine.

Cross interrogatory 6th. Do you know whether the price of materials used in the construction of said machines are higher or lower than when you were engaged in the business?

Answer. I suppose the price of lumber to be somewhat higher, and the price of iron to be somewhat higher, but what the difference is I do not know.

Cross interrogatory 7th. From your knowledge of the business of manufacturing said machines, what would be the effect on their cost from increasing the facilities of the manufacturing and constructing a larger number; and have you any means of knowing or judging of the present cost of making the machines to the plaintiff?

Answer. An increase of facilities and enlarging the business would diminish the cost of the machines. I don't know, nor can I judge of the present cost of the machines to the plaintiff.

Cross interrogatory 8th. State, if you know, what has been the demand for McCormick's reaper in the western States of late years; and has it been as great or greater than for any other agricultural machine that you know of?

Answer. The demand has been large—has been as great or greater for McCormick's machine than for any other agricultural machine.

THERON PARDEE.

Subscribed and sworn to before me, this 17th day of October, A. D. 1851.

J. W. CHICKERING,
Commissioner, &c.

(*No.* 28.)

William B. Ogden, being carefully examined, and cautioned, and duly sworn to testify the whole truth, and nothing but the truth, as in answers to the interrogatories as follows, saith:

Interrogatories in behalf of defendants.

Interrogatory 1st. What is your age, residence, and business?

Answer. My age is over twenty-one years; my residence is Chicago; my occupation is operator and agent of real estate.

Interrogatory 2d. Have you ever been engaged in the manufacture of McCormick's Virginia reaper, in partnership with the plaintiff; if so, when, where, and to what extent?

Answer. I was connected with the plaintiff in the manufacturing of fifteen hundred Virginia reapers in the fall of 1848, and the winter and spring of 1849, at Chicago.

Interrogatory 3d. State, if you know, the average cost of each reaper, including the cost of obtaining the orders for the reapers, putting them in operation, bad debts, expenses of collecting, making good the warrantees, and all other proper items entering into the cost of the same; give the items as near as you can.

Objected to by the plaintiff.

Answer. The average cost of each machine was about forty-eight dollars, to which should be added, for the use of buildings and machinery used for each machine, two dollars and forty cents; six per cent. interest on outlay pending construction, say one dollar and forty-four cents; commission and compensation for obtaining orders for sale, and for setting up machines, average about six dollars for each machine; average per cent. loss on credits given, about four dollars and fifty cents; average cost of collection about two dollars and twenty-five cents for each machine; making the total cost of each machine sixty-four dollars and fifty-nine cents. I have made up my estimate of the cost of the machines from the general disbursements, as appears from the books of the concern.

Cross interrogatories on behalf of plaintiff.

Cross interrogatory 1st. What patent fee were you to pay plaintiff on machines manufactured?

Answer. We were to pay twenty-eight dollars on all machines sold for cash; for machines sold on credit, the first fifty dollars went to the manufacturers for cost of constructing, and of the remaining seventy dollars thirty-seventieths of the amount collected thereof went to the plaintiff for a patent fee.

Cross interrogatory 2d. Did you sell out to the plaintiff; if so, at what profit per machine, and when?

Answer. Myself and partners, composing the firm of Ogden and Jones, sold out our interest of five-ninths on the profits of the year we were together, inclusive of the prospective profits of the succeeding year which we had a right to continue in the business, and inclusive of the interest on capital furnished to July, 1849, for the amount of thirty thousand dollars in notes taken for reapers, guarantied by the plaintiff, but subject to the costs of collection at our expense.

Cross interrogatory 3d. What do you know as to the demand for and

3214.

sale of McCormick's reaper in the western States within a few years past, and of its value to the agricultural community?

Answer. The demand has been large, and it has been a very useful and valuable improvement, and has generally given satisfaction, so far as I know.

Cross interrogatory 4th. Do you know that part of the machine known as the raker's seat or stand; has it been a great improvement to the machine, and has it given general satisfaction?

Objected to by defendants.

Answer. I am acquainted with the raker's seat, and consider it a very useful appendage to the machine; and so far as I know it has given general satisfaction.

W. B. OGDEN.

Subscribed and sworn to before me, this the 17th day of October, A. D. 1851.

J. W. CHICKERING,
Commissioner, &c.

(Opened in court, and filed October 22, 1851.)

(J.)

William Dwyer, being about the age of thirty-five years, and having been by me first cautioned and sworn to testify the truth, the whole truth, and nothing but the truth, in the cause aforesaid, I carefully examined the said William Dwyer, and he did thereupon depose, say, and testify as follows, to wit:

Interrogatory first. What is your name, age, occupation, and place of residence?

Answer first. My name is William Dwyer, I am about thirty-five years of age; I am a carpenter, and reside in Chicago.

Interrogatory second. Are you acquainted with the parties named in the title to these interrogatories; if so, how long have you known them or either of them, and which?

Answer second. I am acquainted with the plaintiff, and have known him and have been in his employment since last December; I don't know the defendants.

Interrogatory third. Are you acquainted with the machine known as "McCormick's Virginia Reaper," and how long have you known said machine; and have you been engaged in the manufacture of the same, or have you used the same, and how long?

Answer third. I am acquainted with said machine, and have known said machine since the last spring. I have been engaged in the manufacture of the same since the beginning of December last. I have been working with these machines during the late harvest in the fields in the States of New York and Illinois.

Interrogatory fourth. Do you know or are you acquainted with the machine, reaping machine, manufactured by the defendants in 1850;

and what have been your means of becoming acquainted with said machine?

Answer fourth. I have seen the machines manufactured by the defendants at work in the field; I saw two not put together at Ovid, in New York, and I saw another at work at Penn Yan, in the same State. I examined these machines particularly, to see the difference between them and the plaintiff's machines.

Interrogatory fifth. Are you sufficiently acquainted with both plaintiff's and defendants' machines to perceive and understand what difference may exist between the two, if any? State whether or not you have been long engaged in the manufacture of machines of this sort.

Answer fifth. I am sufficiently acquainted with both machines to explain the difference. I have been engaged in the manufacture of McCormick's machine since December last, as I before stated.

Interrogatory sixth. Do you understand the principles and construction of the dividing apparatus and support to the reel, as patented in 1845, being the 4th and 5th claims in the patent of C. H. McCormick; and do you know what was the difference between the machines manufactured by C. H. McCormick or C. H. McCormick & Co., under the patent of 1845, and the original machines of plaintiff?

Objected to by defendants' counsel, Grant Goodrich, esq.

Answer sixth. I understand the principles and construction of the dividing apparatus and support to the reel, as patented in 1845 by C. H. McCormick; I do know the difference between the original machines of the plaintiff and those manufactured under the patent of 1845.

Interrogatory seventh. Please explain the differences between said machines, and what, if any, were the improvements made by the alteration.

Objected to by defendants' counsel.

Answer seventh. The difference between the original reapers of the plaintiff, and those made under the patent of 1845, is, that the reel post stood in front of the sickle on the dividing board; in the improved patent of 1845 the reel post was put behind the sickle, so that it would not interfere with the grain; in the improved machine a dividing iron was put on the dividing board to raise up the grain square against the edges of the sickle. These are all the improvements on that side of the machine; on the improved machine there is a seat for the raker, erected over the end of the finger beam, so that the raker can sit or stand; I am aware of no other improvements.

Interrogatory eighth. Is there or not a separator board in combination with the dividing iron referred to above, and was or was not said board on the original machine, and state the use of said board?

Answer eighth. There is such a separator board on the new machine; its use is to divide the straw.

Interrogatory ninth. What, if any, has been the effect of the changes in the position of the supporter of the reel, the dividing iron, and separator board above mentioned, upon the operation of said plaintiff's machine, and how does the side of plaintiff's machine now perform?

Answer ninth. The reel post which supports the reel bearer was before in the way; and by the improvement of 1845, it is out of the way of everything, and the side of the plaintiff's machine now performs by dividing the straw, and performs well, the improvements being of great advantage to the machine.

Interrogatory tenth. Does or does not the machine of the defendants on the divider side of the reaper resemble the plaintiff's machine; if there is a difference, state what it is; is it a difference of position or arrangement merely, or of the principle of the machine?

Objected to.

Answer tenth. The machine of the defendants on the divider side resembles the plaintiff's machine; there is a slight difference; the action is the same, and the only difference is in the position of the reel post and the dividing board, that difference being little; in the machine that I saw of the defendants the dividing iron was taken off—I mean the one that I saw in use.

Interrogatory eleventh. Is or is not the support to the reel in the defendants' machine removed back of the cutting apparatus as in plaintiff's?

Answer eleventh. It is removed back of the cutting apparatus.

Interrogatory twelfth. State the difference, if any, in the operation of the separator board, with reference to its outward and inward operation under the reel, in the plaintiff's and defendants' machine, and does the separator board in the machine of the defendants perform a similar office to the dividing iron in plaintiff's, or how otherwise?

Answer twelfth. The operation of the separator board is the same in both machines, and the separator board in the machine of the defendants performs the same office as the dividing iron of the plaintiff's machine.

Interrogatory thirteenth. What, if any, is the difference in the construction of the raker's seat in the machine of the plaintiff and defendants? State particularly if any.

Answer thirteenth. The raker's seat in the defendants' machine is supported by iron, and it is placed behind the machine; the other I have described before.

Interrogatory fourteenth. Is or is not the position of the raker's seat in both machines the same, and how does the use of said seats in said machines differ, if at all?

Answer fourteenth. The position of the seats in both machines is the same, and they are used for the same purpose.

Cross examined by Grant Goodrich, esq., of counsel with defendants.

Interrogatory first. When did you first see the reaping machine which you know of your own knowledge was built by McCormick, the plaintiff?

Answer first. Last December was the first time I saw any.

Interrogatory second. Of what country are you a native, and when did you come to America?

Answer second. I am a native of Ireland, and came here in 1847.

Interrogatory third. Will you swear you ever saw a reaping machine that you know of your own knowledge was made by defendants?

Answer third. I cannot swear to that, because I never saw them make any; I was told that they made those I saw.

Interrogatory fourth. In whose possession was the machine you speak of having seen at Penn Yan?

Answer fourth. I do not know the farmer's name.

Interrogatory fifth. When did you first see a McCormick reaper, and where?

Answer fifth. I first saw one in December last, in McCormick's factory.

Re-examined.

Interrogatory first. What led you to know, or what means have you of knowing, that the machines of which you have spoken as belonging to defendants were made by them; were said defendants' names on said machines? State why you believe they were defendants.

Objected to.

Answer first. I know nothing more than I was told by the farmers that I saw them with; I did not notice that defendants' names were on the reaper that was at work, but their names were on the new ones at Ovid's landing; the machines were the same.

WILLIAM DWYER.

Subscribed and sworn to, this 16th day of October, A. D. 1851, before me, GEORGE W. MEEKER,

U. S. Commissioner cir. court U. S., district of Illinois.

(*K.*)

Orson D. Richards, the second witness being produced on the part of the plaintiff, being duly cautioned and sworn to testify the truth, the whole truth, and nothing but the truth, testified as follows:

Interrogatory first. What is your age, occupation, and place of residence?

Answer first. My age is 32; I am a farmer, and live in Du Page county, Illinois.

Interrogatory second. Are you acquainted with the parties in the title to these interrogatories named; if so, how long have you known them, or either of them?

Answer second. I am partially acquainted with the plaintiff, and have known him about 3 years; I do not know the defendants.

Interrogatory third. Are you acquainted with the machine called "McCormick's Virginia Reaper," as manufactured by him in 1845, and since said year; if yea, please describe the support to the reel, the dividing iron and the separator board, on said machine, and their uses and advantages?

Answer third. I am acquainted with said machines; the support to

the reel is a post standing under the reel beam, standing back of the sickle a considerable distance, which makes it, I consider, a great advantage over the reel bearer on the same machine. The dividing iron is an iron placed in front of the dividing board for the purpose of raising the grain, and also inclining it at the same time so that the reel may gather it and fetch it against the sickle; it works well for the purpose thus stated; the separator board is placed for the purpose of bearing the standing grain away, so that the machine will pass by and leave the grain standing erect by the side of the machine; that also has the desired effect; I consider that side of the machine, that is, the improvements above described, of vast importance.

Interrogatory fourth. Have you seen, and are you acquainted with the reaping machine, in use prior to the introduction of the machine you have spoken of in your last answer; if yea, in what did the original machine differ from the one you have described? State particularly with reference to the divider side.

Answer fourth. I have seen and was acquainted with the original machine; the support to the reel in the old machine stood forward of the sickle, in the new machine it is behind the sickle; the most I can say about the separating apparatus forward of the reel supporter is, that it was a blunt, clumsy concern for passing through the grain, which caused it to knock down considerable of the grain and run over it.

Interrogatory fifth. Was there in the old machine any separator board, or anything similar thereto?

Answer fifth. There was nothing similar to the separating board that is now used with the machine.

Interrogatory sixth. How does the machine of said plaintiff, with the improvements of which you have spoken, work upon the separator side as compared with the original machine, and does the machine with these improvements now work well in the harvest field?

Answer sixth. The original machine upon the separator side was a very imperfect machine, and but of very little value compared with the one now in use; the one improved as above stated works well in the field.

Interrogatory seventh. Did you, in the original machine of which you have spoken, see any seat for the raker; and in what respect, if any, is the present machine altered on this side from the original one?

Answer seventh. I saw no seat for the raker in the original machine; the machine now in use has a good comfortable seat over the finger beam, which the raker can sit or stand on and rake the grain off with the usual ease of common labor.

Interrogatory eighth. Do you regard the addition of the raker's seat as an improvement upon the original machine? If yea, state why and whether the original machine could do good execution without such seat.

Answer eighth. I regard it as an improvement; because on the original machine the raker had to run or walk on the ground to rake the

grain off the machine. I think the original machine could not do good execution without such seat.

Interrogatory ninth. Please state what has been your acquaintance with reaping machines, and your means of judging of their comparative value.

Answer ninth. My first acquaintance with the machine was with the original machine I have described. It was six or seven years ago, and I have been in the habit of seeing machines since. I saw the first one in Kendall county, and was with it two or three days. Ever since, I have been accustomed to see machines work every year, more or less. I never owned one, but have for three different years *have* run three different machines.

Cross examined by Grant Goodrich, esq., of counsel for defendants.

Interrogatory first. How many reaping machines made previous to 1845 have you ever seen, and how many made previous to 1847?

Answer first. I cannot tell as to the time those I have seen were made.

Interrogatory second. Have you ever seen any machines manufactured by Gray & Warner, and Gray & McCormick, or McCormick, Ogden & Co.? If so, state whether there is any difference in construction between them; if so, state the same particularly.

Answer second. I cannot say whether I ever saw any with Gray's name on, or Warner's; but I have seen and run one with Ogden's name on it and McCormick's, and these names were in Co.

Interrogatory third. Have you seen reaping machines that were manufactured at Chicago, in the years 1847, 1848, 1849, and 1850? If so, state the difference in construction.

Answer third. I have seen machines each of those years that were said to have been brought from Chicago, and that were said to be McCormick's reapers; machines that were said to be made since 1847 were alike as near as I can recollect; there might be some variation in placing the fingers and bolts.

Interrogatory fourth. How do you know the reaper which you saw in Kendall county was made by McCormick?

Answer fourth. The only thing I can recollect is from the general report to that effect.

Interrogatory fifth. Have you seen the patent of McCormick, or a printed description of his machine, or the improvements? If so, from whom did you receive them or it, and for what purpose?

Objected to by Collins and Williams, attorneys for plaintiff.

Answer fifth. I have seen either, except what I have seen in the public newspapers.

Interrogatory sixth. Can a man stand it to rake all day after one of the machines that does an ordinary day's work?

Answer sixth. I have done it day after day without more fatigue than belongs to ordinary harvest work.

Interrogatory seventh. Are you now or have you acted as agent for McCormick for any or what purpose?

Answer seventh. I have not, in any respect, acted as his agent.

Interrogatory eighth. Have you conversed with Mr. McCormick's brother or counsel in relation to your testimony? If so, when?

Answer eighth. I have conversed with the plaintiff's brother in relation to my testimony; it was to-day, before I came to be examined.

Re-examined.

Interrogatory first. What was the nature of the conversation?

Answer first. He asked me my opinion about the relative merits of the new and old reapers, and in regard to the points of difference in the reapers about which I have testified to-day. I have had no conversation with him respecting my testimony prior to yesterday.

ORSON D. RICHARDS.

Subscribed and sworn to, this 16th day of October, 1851, before me,

GEO. W. MEEKER,
Com'r circuit court U. S., district of Illinois.

(*L.*)

Augustin Porter, the third witness produced on the part of the plaintiff, having been by me duly cautioned and sworn to testify the truth, the whole truth, and nothing but the truth, deposed as follows:

Interrogatory first. What is your age, residence, and occupation?

Answer first. I am fifty-four years of age; I am a farmer, and reside in Cook county, Illinois.

Interrogatory second. Are you acquainted with the reaping machine of the plaintiff, and have you used the same; are you familiar with the operation of the dividing iron, and separator board, and support to the reel on those machines? If yea, please state how the machine operates upon this side of the reaper, and whether the present arrangement secures the successful operation of the same.

Objected to.

Answer second. I am acquainted with the plaintiff's machine, having had two of the manufacture of 1850. I have used them, or had them used. I have noticed how these parts of the machine worked. I think the present operation of the machine secures its successful operation.

Interrogatory third. Are the parts of which you have spoken, all of them, and as they are arranged in McCormick's machine, necessary to its successful operation?

Objected to.

Answer third. I think all the parts are necessary, and also the arrangement, without which there would be a deficiency.

Interrogatory fourth. What is the effect of the raker's seat in the operation of McCormick's machine? State whether or not it is of value in the operation of said machine.

Answer fourth. The effect of the seat, that the man sits or stands on the machine instead of walking. It is a hard day's work to walk, and it is also a day's work to rake the grain. I should think the seat saved a day's labor; but I am not acquainted with the machine without seats. I think a man walking could not well rake off the grain.

Cross examined.

Interrogatory first. Have you not seen breaking ploughs so fixed that a person could ride on them?

Answer first. I have seen them fixed, attached to cast wheels, so that a person could ride. That was twelve or thirteen years ago.

Interrogatory second. When did you first become acquainted familiarly with McCormick's reaper?

Answer second. I can't say that I was familiarly acquainted with them until last season. I have seen them for three or four years.

AUGUSTIN PORTER.

Subscribed and sworn to, this 16th October, 1851, before me.

GEO. W. MEEKER,
Com'r circuit court U. S., district of Illinois.

(*M.*)

On the morning of the 17th, at 8 o'clock, in pursuance of the adjournment, the plaintiff produced Phineas W. Dickey, who having been by me duly cautioned, and sworn to testify the truth, the whole truth, and nothing but the truth, deposed as follows:

Interrogatory first. What is your age, occupation, and place of residence?

Answer first. I am fifty-two. I am a mechanic and reside in Jamesville, Rock county, Wisconsin.

Interrogatory second. Do you know the reaping machine called McCormick's Virginia reaper, and what have been your means of becoming acquainted with the said machine? State whether you have ever been engaged in the manufacture of reaping machines, and how long, and what has been your acquaintance with said machines?

Answer second. I know the so called machine. I have had the agency under my brother, A. P. Dickey, who is general agent for Wisconsin, of McCormick for selling these machines. I have never been engaged in manufacturing the machines. I have known the machines for two years; during which time I have been engaged in setting them up and putting them to work.

Interrogatory third. Are you acquainted with the reaping machine or machines manufactured and sold by Seymour and Morgan, the defendants; if yea, how long have you known said machines, and what has been your acquaintance with them?

Answer third. I am acquainted with the machines said to be made by them. The first knowledge I had of said machine was the summer of 1850. I have examined them throughout, and have seen them operate in the field.

Interrogatory fourth. How many machines said to be manufactured by defendants have you seen, and what have been your means of knowing that they were manufactured by said defendants?

Objected to.

Answer fourth. I have seen a good many, probably 30 or 40; can't tell the number. I am well acquainted with the general agent of the defendants, Mr. Williams, and I have his authority for saying that the machines I have seen were manufactured by the defendants.

Interrogatory fifth. Have you any other means of knowing that said machines were manufactured by defendants.

Answer fifth. I think the machines I have seen bore the mark of the defendants, but am not certain.

Interrogatory sixth. Are you enough of a mechanic, and are you sufficiently acquainted with machines manufactured by the plaintiff and defendants respectively, to describe the difference, if any, between them? State particularly those differences, if any.

Answer sixth. I think I am enough of a mechanic, and well enough acquainted with both machines to describe the difference between them. The principle of the machines I think is alike; one is more perfect than the other. The dividing of the grain in both is the same in principle; but the plaintiff's machine has an iron that heaves the grain inwards to the sickle. The defendants' machine has a board to answer the same purpose. There is also a difference in the shape of the sickle; the plaintiff's machine using a straight one; there is also a difference in the gearing, although it is hitched on the same side and answers the same purpose; the brace or support to the reel in the defendants' machine stands a little further forward than in the plaintiff's, although answering the same purpose; the platform and all the fixings behind are the same in both machines. The rake seat in the plaintiff's machine stands over the finger beam, so that the raker can put his feet upon it; he can sit or stand comfortably, but he cannot work without standing; the seat holds him steady. On the defendants' machine the raker's place is in the same position, but there is no seat; but in its place a hoop of iron that runs around the raker.

The answer is objected to.

Interrogatory seventh. Can the raker's seat that you have described as belonging to McCormick's machine be used as a relief to the raker? State particularly its advantages to the raker, if any.

Answer seventh. In some cases it may be used as a relief. In light grain, the labor being one-half of that of heavy grain, the raker can sit about half the time; in heavy grain the raker is obliged to stand and work all the time.

Interrogatory eighth. In what position does the man stand in raking heavy grain, and what parts of the machine support him in each machine? State particularly in reference to each.

Answer eighth. He straddles the seat in McCormick's machine, and leans forward against a board which supports his legs, his body being

bent forward; in the defendants' machine there is nothing to support him but his own strength.

Interrogatory ninth. In defendant's machine of 1850, of which you have been speaking, is there anything in front of the raker to support him, as in plaintiff's machine?

Answer ninth. There is a piece of iron that runs around in front for that purpose; but I think it does not answer the same purpose; it answers the purpose of keeping him on, but it is more labor for the man working.

Interrogatory tenth. If the reel in either machine was supported at or before the cutting apparatus, what would be the effect upon the operation of the machine? State fully.

Answer tenth. In cutting grain the general rule is to go round a piece of grain, and grain that grows here a great deal of it lodges down, and when down it generally lays one way; the machine when it is running on the side that the grain lodges in, the brace catches the grain and prevents the raker from getting hold of it to rake it off the platform; the sickle can't have the same chance of cutting the grain as if it stood behind the sickle.

Interrogatory eleventh. What is the operation of the plaintiff's machine in the harvest field with reference to the dividing apparatus, and raker's seat; is it successful, or otherwise?

Answer eleventh. The operation of the raker's seat and dividing apparatus is good and gives general satisfaction.

Cross examined by Grant Goodrich, esq., of counsel for the defendants.

Interrogatory first. Do you know anything of the manufacture of what you call the defendants' machines, other than you have learned from report?

Answer first. As I said before, I only know from what the defendants' agent told me.

Interrogatory second. How many of said machines will you swear you ever had any conversation with Mr. Williams in relation to?

Answer second. I could not say as to that, but I don't think more than one or two specific machines when we were both together before the machines.

Interrogatory third. How many of such machines will you swear you have seen in use, and when did you see them used for the first time?

Answer third. I don't think I have ever seen more than a dozen in operation; I saw the first in July, 1850.

Interrogatory fourth. How long have you been engaged as sub-agent in selling and putting up plaintiff's reapers?

Answer fourth. I have been employed since the winter of 1849 and '50.

Interrogatory fifth. What has McCormick usually paid agents for obtaining orders?

Objected to.

Answer fifth. I do not know; I was paid by the day.

Re-examined.

Interrogatory first. Were all the 30 or 40 of defendants' machines similar in construction to those about which you have conversed with defendants' agent in the presence of the machine?

Answer first. They were the same; I can't be mistaken about this.

Interrogatory second. Have you seen machines in operation with the raker's seat, differing from plaintiff's machine, which you have described? If so, describe the difference in the raker's seat and their comparative advantages.

Objected to.

Answer second. I have seen this last summer the defendants' machines, with the raker's seat on the back end of the platform. I think this cannot be as good, nor bear any comparison with, the plaintiff's arrangement, because the grain comes right in his face; the raker being on the back of the platform rocks the machine more than if he was on before.

Re-cross examined.

Interrogatory first. How many of what you call defendants' machines did you see in 1850, and how many in 1851?

Answer first. I saw 30 or 40 in 1850, and about 20 this year.

PHINEAS W. DICKEY.

Subscribed and sworn to this 17th day of October, 1851, before me,

GEO. W. MEEKER,

U. S. Comr. cir. ct., dist. of Illinois.

(N.)

William John Hanna, the fifth witness produced by the plaintiff, having been by me duly cautioned and sworn to testify the truth, the whole truth, and nothing but the truth, deposed as follows:

Interrogatory first. What is your age, residence, and occupation?

Answer first. I am twenty-five years of age, I reside in Chicago, and am an assistant of the plaintiff in the superintendance of his business in Chicago.

Interrogatory second. Are you acquainted with the machine known as McCormick's Virginia reaper? If yea, state particularly how long you have known it, and what have been your means of acquaintance with said machine.

Answer second. I am, perfectly well, in all its details. I have known it for the last two years; my general business led me to be around among mechanics more or less, superintending their work; and, further, I have shipped and handled all the machines built at McCormick's for the last two years, in all about 2,500.

Interrogatory third. Have you ever seen and examined the plaintiff's patents of January, 1845, and October, 1847, particularly the fourth and fifth claims of the patent of 1845, and the last claim of the patent

of 1847? If yea, describe the parts so patented, and state whether said parts are essential improvements to said machine.

Objected to.

Answer third. I have read his claims, particularly his fourth and fifth claims, of the patent of 1845, and have examined particularly a certified copy of his patent of 1847. The 4th claim of the patent of 1845 is for the use of a dividing iron used to throw the grain inward and upward within reach of the reel, and also a bow for the purpose of bearing the grain outward which is not to be cut. The 5th claim is for the removal from before, and setting behind the cutting apparatus, the support to the reel, whereby the grain can enter to the cutting apparatus, and thence to the platform, whereby the man can easily rake it off. The last claim of the patent of 1847 is for a position of the man upon the end of the finger piece, immediately behind the gearing and in combination with the reel, the reel being shortened and set forward for that purpose. The above described parts are most certainly essential improvements to said machine.

Interrogatory fourth. Are you acquainted with the construction of reaping machines, and do you understand the principle involved in their construction; can you construct or direct the construction of a reaping machine from your present knowledge?

Objected to.

Answer fourth. I am, and understand the principle of the construction, and can construct and direct the construction of such machines; I have no doubt of it.

Interrogatory fifth. Describe the dividing apparatus in plaintiff's machine; state particularly what parts are most important, and describe their operation.

Objected to.

Answer fifth. The first part is the dividing iron which enters into the standing grain, and has the effect of bearing the grain inward and upward, within reach of the reel; the 2d part is the separator board, having a rounded edge similar to a bow placed at an angle with the horizontal position of the machine, whereby the grain not to be cut is borne outwards from the machine, thus making a complete and perfect separation. I think the dividing iron and separator board are equally important. I have above described their operation.

Interrogatory sixth. Describe if you can the manner in which the reel in plaintiff's machine is supported, and what is the effect of such support in the operation of the machine.

Answer sixth. The reel is supported by an oblique brace or post placed behind the cutting apparatus, thus giving the grain free access to the sickle, and thence to the platform, and thus affording the raker an opportunity of reaching his rake into the open space and withdrawing all grain or other matter that may accumulate there.

Interrogatory seventh. What, if any, would be the effect in the operation of the machine if the support to the reel was placed before or at the cutting apparatus?

Objected to.

Answer seventh. The effect would be, as I know perfectly well, that such a post or support placed there would bear down any grain that stood in its way; and further, that the grain would hang and clog around this reel post, and finally become a barrier to the cutting operation; from the fact that this post would come in contact with the grain before the grain was cut.

Interrogatory eighth. What would be the effect upon the operation of the machine in removing the support to the reel to a greater or less distance back of the cutting apparatus?

Answer eighth. The further that support or reel post was removed back, of course it would give more room for the admission of the grain, as heretofore described, and present greater facilities to the raker to prosecute his work.

Interrogatory ninth. Describe, if you can, particularly, the raker's seat in plaintiff's machine, and its position and use.

Answer ninth. The raker's seat is a position on top, and at the end of the finger piece, immediately behind the gearing, and in combination with the reel, the raker being supported in front by a piece of wood called the breast piece, from which position, leaning over said breast piece as a support, he can at arm's length, and by a natural sweep of the body, deliver the grain from the platform in suitable order.

Interrogatory tenth. Are there any other parts to the raker's seat and its combination with the reel which you have not described; if yea, describe them, and what are the different positions of the men in operating?

Answer tenth. There is a piece of wood which connects the above-described breast piece with the machine, formed so that the reaper can conveniently stand a-straddle of it in raking, or sit on said piece when operating in very light grain or resting himself; the reel is set forward and shortened, so as to present no difficulties to the raker.

Interrogatory eleventh. Have you ever seen the plaintiff's machine in operation. If so, state what is its operation with reference to the raker's seat and dividing apparatus as arranged since you have known it.

Answer eleventh. I have seen it in operation; its operation in both parts of the machine referred to has been perfect; it worked admirably.

Interrogatory twelfth. How does the work of the raker on plaintiff's machine compare with ordinary work in harvesting? Is his seat or stand comfortable or otherwise?

Answer twelfth. In the average kind of grain the raker can do his work without an extra degree of exertion; it of course takes an able-bodied man; the seat and stand are comfortable, and the work could not be done otherwise with the same degree of ease.

Interrogatory thirteenth. What do you know as to the demand for, and sale of, and satisfaction given by, plaintiff's reapers, since you have been in his employ?

Answer thirteenth. The demand within my knowledge has been

unparalleled, the manufacture oftentimes not being able to supply the demand at certain points; I am aware that within the last three years upwards of four thousand of these machines have been sold, and the greater part of them paid for. They have given, so far as I know, decidedly general satisfaction. I have never known one returned, except in consequence of the incompetency of the purchaser in putting it up, or in consequence of some of its parts being mislaid or broken in transportation.

Interrogatory fourteenth. Do you know, and have you seen, machines manufactured by defendants; if yea, how many, when and where; what were your means of knowing them to be defendants' machines, and of understanding their peculiar construction?

Answer fourteenth. I know them, and have seen them; I have seen quite a pile, how many I can't say, at Dole, Rumsey & Co.'s warehouse, for sale; it was during or about the harvest of 1850, and I have seen one in plaintiff's factory. Each machine that I saw had secured to the main post of the machine a cast-iron plate designating them as manufactured by Seymour & Morgan, at Brockport, New York; I minutely inspected and examined one of the machines that was put together in plaintiff's factory, and I also examined those lying on the wharf of Dole, Rumsey & Co.

Interrogatory fifteenth. Describe the dividing apparatus in said defendants' machines, and also the raker's seat, particularly, and state in what respects, if any, they differed from the same parts of the plaintiff's machine.

Answer fifteenth. The first has got a separator board placed at an angle with the platform, which bears the grain outward; they have also got a strap of wood, the outline or edge of which answers the same purpose, and is placed in the same position and for the same purpose, as the dividing iron of the plaintiff, bearing the grain inward and upward within reach of the reel; the reel is supported similarly to the plaintiff's, behind the cutting apparatus, of course allowing the grain free admission in and on to the machine, similar to the plaintiff's. The raker's seat is exactly a position over and on the end of the finger piece, behind the gearing and in combination with the reel, the reel being shortened and set forward so as to be out of the way of the raker. It has got a breast piece on which the raker leans to do his work, same as the plaintiff's, which breast piece, instead of being secured to the machine by another piece of wood like the plaintiff's, is merely secured by a piece of iron passing on each side of the man.

Cross examined by Grant Goodrich, esq., of counsel for defendants.

Interrogatory first. What do you understand by a combination as used in reference to machinery?

Answer first. The relative position of parts.

Interrogatory second. Is there any necessary connection between the several parts of a combination?

Answer second. There is, of course; because, if you alter the position of one, you destroy the combination.

Interrogatory third. Would not the reel operate as perfectly if there was no raker's seat on the machine, and produce the same effect as it now does?

Answer third. The reel would operate, but not produce the same effect, because it would have the effect of piling quantities of grain upon the platform, which could not be discharged as quick as they would accumulate, except there was a position for the raker to stand there to discharge it.

Interrogatory fourth. Did you ever see a machine before 1847; and if so, was not the grain raked off it without any raker's seat?

Answer fourth. I never saw a machine made before 1847; I am aware, however, that a man walking beside a machine on the ground could not keep the platform clear of the grain as effectually as a man riding upon a machine, because it is pretty smart work for the man to do it riding upon the machine.

Interrogatory fifth. Did you ever see it tried?

Answer fifth. I never saw it tried, but still I am aware it could be done; my reason dictates so.

Interrogatory sixth. Are you a mechanic or skilled in mechanics?

Answer sixth. I am not a mechanic, not a practical mechanic, but consider that I have some skill in mechanics.

Interrogatory seventh. How long have you been connected with the operation of machinery, and in its construction?

Answer seventh. I have been connected with the operation of machinery, in factories of different descriptions, for about the last six years in this country and in Great Britain. I have been engaged, intimately engaged in its construction for the last two years, more or less previously.

Interrogatory eighth. What connexion had you with machinery prior to the last two years?

Answer eighth. I have been concerned in spinning and weaving warping factories, where the work was done partly by manual labor, but generally by steam machinery.

Interrogatory ninth. In what does your skill in mechanics consist?

Answer ninth. In a general knowledge of mechanics in general, and in some of the fundamental laws of mechanics.

Interrogatory tenth. In which of the fundamental laws of mechanics have you a skilful knowledge?

Answer tenth. In the properties of the lever, the pulley, and the inclined plane.

Interrogatory eleventh. Who has been the foreman of the plaintiff in the construction of machines for the last two years?

Answer eleventh. The management of constructing the machines has been under the charge of Mr. Leander McCormick, Mr. William S. McCormick, with my assistance, more or less.

Interrogatory twelfth. When did you first see a reaping machine, and whose was it?

Answer twelfth. About 2½ years ago; it was McCormick's.

Interrogatory thirteenth. How much grain did you ever see cut by a reaper?

Answer thirteenth. I have seen more than a dozen reapers cut at once, from an elevation, but never have made it my business to go and work in the harvest field as a laborer; so that I never saw one machine work all day, although I have raked off machines myself until I got tired.

Interrogatory fourteenth. How long did it take you to get tired; and was it for mere diversion that you raked?

Answer fourteenth. About half an hour; I raked with a view of learning the process, so that if called on, or if sent out as an agent during harvest time, I might be capable of instructing those had never used the machine how to put it in operation, and successfully rake off it.

Re-examined.

Interrogatory first. Would the principle on which the reel is supported in the reaping machine of which you have spoken, be altered by a removal of the support to the reel to a greater or less distance behind the cutting apparatus? Give your views fully.

Objected to.

Answer first. It would not be altered, because it is a great improvement to have the support behind the cutting apparatus, as it allows free access of the grain to the sickle, and from thence to the platform; and, of course, the further back that support is set it gives the more room for the same purpose, and is merely an extension of the same principle.

Interrogatory second. Is there any difference in the principle of the raker's seat, plaintiff's and defendants'?

Objected to.

Answer second. I don't know of any difference; in my opinion the principle is decidedly the same, as the man is placed upon the same part of the machine in both cases, in combination with the like parts in both cases, and supported alike in both cases by the breast piece as he leans forward on it.

Interrogatory third. State whether you have been sent out by the plaintiff, expressly for the purpose of learning the practical operation of the machine, for the purpose of teaching others?

Answer third. I have been sent out expressly for that purpose.

Interrogatory fourth. Do you know whether the price of lumber, castings, and other materials used in the manufacture of machines by plaintiff, for the years 1850 and 1851, was higher or lower than in the previous years, and whether the plaintiff has now greater or less facilities for the manufacture of machines, than when you were first employed by him?

Answer fourth. I know that the materials were lower in 1850 and

1851 than the previous years, and during the last year the plaintiff has considerably greater facilities than he had heretofore.

Re-cross examined.

Interrogatory first. When did you first come to Chicago, and when did you commence working for the plaintiff?

Answer first. I came to Chicago July 1st, 1849, and commenced working for the plaintiff November 11th, 1849.

Interrogatory second. How do you know the price of lumber in 1849?

Answer second. I have seen it in the books; and before I went to Mr. McCormick's I was in a lumbering establishment at Kewaner, on Lake Michigan.

Interrogatory third. Do you not know that the general price of lumber has been higher for the last year than any time since you have been in Chicago?

Answer third. I do not know that fact; I only know the prices that McCormick contracted at.

WM. JOHN HANNA.

Subscribed and sworn to, this 18th October, 1851, before me,
GEO. W. MEEKER,
Comm'r circuit court U. S., district of Ill.

(Opened in court, and filed October 22d, 1851.)

(O.)

William S. McCormick, being about the age of thirty-seven years, and having been by me first cautioned and sworn to testify the truth, the whole truth, and nothing but the truth, in the cause aforesaid, I carefully examined the said William S. McCormick, and he did thereupon depose, say, and testify as follows, to wit:

Interrogatory first. What is your age, residence, and occupation?

Answer first. I am about 37 years old; I am residing in Chicago temporarily, and am a resident of Rockbridge county, Virginia. I am at present, and have been for the last year, principal superintendent of the plaintiff.

Interrogatory second. State, if you know, when the plaintiff began to manufacture the machine known as McCormick's Virginia reaper?

Answer second. The plaintiff has manufactured and experimented with his reaper since 1834 to my knowledge.

Interrogatory third. Were you acquainted with the reaper manufactured by the plaintiff prior to the year 1845, and its mechanical construction? If yea, please state, particularly, what were your means of becoming acquainted with said machine; if there were any defects in the working of said machine, state them, and in what part of the machine they were most apparent; describe the dividing apparatus and support to the reel in said machine.

Answer third. I have been intimately connected with the machine made prior to 1845, and well acquainted with it, as a farmer, from the date of his first experiment, prior to 1834, up to the harvest of 1849. As a farmer, and by way of furnishing the inventor an opportunity of experimenting, I believe I used it each year, from 1834 to 1845; his experiments in constructing and altering his machines having been made in the manufacturing establishment in the premises of my father, and I believe the superintendent of my father's business, and the brother of the plaintiff. There were important defects in the reaper, as constructed and used prior to 1845, so important that none could appreciate them properly who had not known and used the reaper without them. The dividing apparatus, in combination with the reel, was so arranged as to divide the grain in advance of the reel, and supposed to be necessary; the want of the dividing iron or board, or some arrangement to bear the grain inward and upward, under and within the power of the reel, was seriously felt. This dividing apparatus before the reel was very imperfect, pressing tangled or leaning grain that came in contact with it down, and preventing its entrance to the cutting apparatus, and into the platform. It was, afterwards, discovered that this dividing apparatus or any support to the reel in advance of the cutting apparatus was seriously in the way. Another essential defect was felt in the want of a seat for the raker, and until a later period than was the case in reference to the defects on the other side. Another difficulty was felt in the operation of the reel on the divider side of the machine *was*, that owing to the springing of the machine the reel could not be made to work close to the divider; the consequence was, that there was generally a trail left for want of something in principle like the dividing iron.

Interrogatory fourth. State the exact position of the supporter of the reel in the machine made prior to 1845.

Answer fourth. Several inches, I think, eight or ten, in advance of the cutting apparatus.

Interrogatory fifth. What effect had the position of the reel supporter upon the operation of the machine?

Answer fifth. The effect was, that the straw would cling around and accumulate upon this support, and thereby the grain be prevented from getting into the cutting apparatus and the platform, and when the grain was tangled or lodged, which was more or less so in every harvest, the machine would be in its operation very imperfect on that side.

Interrogatory sixth. Are you acquainted with the machines manufactured by plaintiff from the year 1845 until the present time? If yea, state in what respect, if any, the machines made subsequent to 1845 differed from those made before said year. If there were improvements upon said machines, state particularly what they were, and their effect upon the said machines.

Answer sixth. I am acquainted with them, and have been intimately acquainted and connected with the machines during the whole time, part of the time manufacturing and selling them myself; while for the

last two years I have been exclusively engaged in the business of manufacturing and selling for the plaintiff and his partner, and to a large extent. After great labor and expense on the part of the plaintiff, he discovered the importance of removing the support to the reel back of the cutting apparatus; which he did, to the distance of about nine inches, and patented the principle in 1845. Soon thereafter, I think the next season, if not the year 1845, he discovered that there was still not room enough for the free entrance of the grain on to the platform, and removed the support to the back corner of the platform, two feet or upwards further, giving about 18 inches more room; a short time after the second change, I think the following season, the back end of this support to the reel was raised to a horizontal position, for the purpose of giving still more room on this side, and better admission of the grain on to the platform. About the same time this principle was invented and patented, the plaintiff made the improvement of the dividing iron to bear the grain inward and upward, under the reel, and within the power of the reel, and also the improvement of a bow, inclining outward and upward, for the purpose of bearing off the standing grain; hereby making a perfect separation of the grain to be cut from the grain to be left standing, in combination with the reel, and preventing a drag or trail, which had always given trouble on account of previous imperfections. These improvements, including the change in the principle of supporting the reel, the dividing iron and bow, were all patented in 1845, and altogether formed a crowning improvement on that side of the machine; the machine up to the present time being constructed substantially in the same way, and continuing to give the highest degree of satisfaction, to my knowledge, in their performance. Prior to 1847, the plaintiff made the improvement called the raker's seat, which he patented in 1847; the effect of this has been that, before the improvement, the raker had to walk upon the ground, while it was impossible, walking on the ground, to do the work well; it was so laborious and difficult to do it at all, that the machine could never have been introduced extensively without this improvement, or one of the sort. This raker's seat or stand is a position on and over the finger beam, behind the wheels or gearing, in combination with the reel, with a support or front piece before the raker, against which he leans when operating; this front piece and the position on the finger beam being the essential parts, while the front piece is connected with the frame by a piece of wood, shaped into a comfortable form for a seat, over which the raker stands with a leg on each side, the reel being shortened and moved forward, to be out of the raker's way, from its former position, and the crooked board called the wheel board so arranged as to press the grain within the operation of the reel as shortened. The effect of the raker's seat has been that, while the raker could not have been introduced to any great extent without it, the demand for and sale of the machine has been very great with it; and while my opportunities for hearing complaints have been good to the extent of several thousand machines made and sold, the satisfaction given I should think had been

almost unparalleled, there having been scarcely a complaint with reference to the raker's seat or the dividing apparatus.

This answer is objected to by the defendants' counsel.

Interrogatory seventh. Have you seen and are you acquainted with the machines manufactured by Seymour & Morgan? If yea, state in what respects, if any, the dividing apparatus, support to the reel, and raker's seat differ from the same parts of the plaintiff's machine.

Answer seventh. I have seen Seymour & Morgan's machines, manufactured in 1850, in Chicago, in different parts of New York State, and in Wisconsin. I have seen them put together, and in detached parts. I have seen them standing, and have seen them operating, and have examined them very thoroughly, and with reference to the dividing apparatus and the raker's seat; to my mind, they are almost exactly the same, and the support to the reel almost exactly the same, and do not differ at all in principle. In the dividing apparatus they had, in their machines which I saw, a board to bear the grain inward and upwards under the reel, as the dividing iron in the plaintiff's machine; they had the separator board so arranged as to bear the standing grain outward from the grain to be cut; they had the support to the reel extended back from the cutting apparatus, as in plaintiff's machines; making the dividing apparatus, in combination with the reel, to my mind, the same in principle, and certainly very nearly the same in mechanical construction and proportion. In the defendant's machine, the raker stands on the finger beam, as in plaintiff's, while in plaintiff's they can sit or stand—generally standing when the grain is heavy; in both machines there is a front piece, against which the raker leans in operating. In defendant's machine, the front piece is connected with the frame, with an iron rod on each side of the raker, instead of the connection between the legs of the raker, so arranged as to make a comfortable seat.

Interrogatory eighth. Do you know, and can you state whether the facilities for the manufacture of reapers has been greatly increased by the plaintiff within the last two or three years, or otherwise, and whether the cost of the manufacture of plaintiff's machines has been increased or diminished?

Answer eighth. I have been in the employ of the plaintiff and C. H. McCormick & Co. since November, 1847, and we have been getting the business more and more systematized, and increasing the facilities for manufacturing in every way, and the expense of manufacturing reapers has been materially reduced.

Interrogatory ninth. State if you know what has been the demand for and sale of plaintiff's machines, and what has been the operation of said machines.

Answer ninth. The demand and sale has been such that 4,000 have been made and sold within three years past, and have given almost universal satisfaction.

Interrogatory tenth. Have you seen and do you know a machine manufactured and sold by Hiram Moore? If yea, state in what respects

it resembles, in its mechanical construction, with reference to the dividing apparatus and raker's seat, the plaintiff's machine.

Answer tenth. I have seen Hiram Moore's machine, of Michigan; it has no raker's seat, nor is there any thing about it resembling the dividing apparatus in the plaintiff's machine.

Cross examined by Grant Goodrich, esq., counsel for defendants.

Interrogatory first. How do you know the machine you have spoken of to have been Moore's machine, or manufactured by him; and where did you see it?

Answer first. I saw it in the possession of Andrew T. Moore, of Michigan; I went from Chicago to see it; and all I know of its being Hiram's machine was from what Andrew told me.

WM. S. McCORMICK.

Subscribed and sworn to, this 18th day of October, 1851, before me,

GEO. W. MEEKER,

Com'r circuit court U. S., district of Illinois.

(Opened in court, and filed Oct. 22d, 1851.)

(*P.*)

And thereupon appeared Thomas D. Vail, one of the witnesses aforesaid, and the said Thomas D. Vail, being by me carefully examined and cautioned, and sworn to testify the truth, the whole truth, and nothing but the truth, deposeth, maketh oath, and to the several interrogatories propounded to him, answereth and saith as follows, namely:

1st interrogatory, by E. S. Williams, plaintiff's attorney. What is your name, age, and occupation; and where do you reside?

Answer. My name is Thomas D. Vail; am nearly 38 years old; my occupation is that of a farmer, and has been for nearly 20 years; and I reside at Terre Coupé, State of Indiana.

2d interrogatory, by same. Are you acquainted with the parties, plaintiff and defendants, in the caption to these interrogatories mentioned, or either, and which of them; and how long have you known them, or either, or which of them?

Answer. I have seen Mr. McCormick, the plaintiff, some two or three times, and am slightly acquainted with him. The defendants I do not know, or either of them.

3d interrogatory, by same. Where did you reside in the year 1845; and did you in said year purchase a reaper of any person or persons? If yea, where, when, and of whom did you purchase said reaper; and who was the maker or manufacturer of said reaper?

Answer. I then resided at the same place, Terre Coupé, Indiana. During that year my brother and myself bargained for a reaper with a Mr. Hite, agent for A. C. Brown, of Cincinnati, Ohio. The reaper was represented as having been manufactured by said Brown, and he, said Brown, has been at our place twice since and claimed himself as maker.

Answer objected to by the defendants' counsel.

4th interrogatory, by same. State if you know who was the patentee of the reaper bargained for by you with Mr. Hite, as agent for A. C. Brown.

Answer. I supposed that Cyrus H. McCormick was the patentee—I have no doubt of it in my own mind. I have no personal knowledge of the fact, but have always understood that the reapers sold by A. C. Brown, or his agents, were McCormick's patent, and we bargained for said reaper as one of McCormick's patent Virginia reapers.

Question objected to by defendants' counsel.

5th interrogatory, by same. Was the reaper for which you bargained taken and used by you in the harvest of 1845? If not, why not? And was it used by you at any subsequent time? State all the circumstances in relation to the use of the reaper, and of your purchase of the same, if it was purchased by you.

Answer. We did not use it in 1845; it was too late in coming on. It was sometime in August, I think it arrived at Michigan City, but too late to use it that year. We received it September 26th, 1845. The reaper was used by us the next year and every year since. We did not like the reaper; it did not work well; it choked up. Mr. Brown came there the next year, 1847, and while he was there had it altered, and the next year had it sent to Laporte and altered again by having a seat attached behind for a raker. We purchased the reaper since, I don't recollect what year, and being an inferior machine, we only paid $75 for it. By reference to a receipt, I find that we purchased it and paid for it June 24th, 1848; and it must have been in 1847, previous to the harvest, that the raker's seat was attached to it.

6th interrogatory, by same. Did or did not the said Hite, as the agent of said Brown, or in any capacity, sell or bargain other reapers, in all respects similiar to yours, in northern Indiana during the year 1845; if so, did he sell many or few; were there many or few reapers similar to yours used in northern Indiana during said year?

Question objected to by defendants' counsel.

Answer. I know of at least three besides ours that he bargained that year, besides several others that I heard of; the three that I speak of were similiar to ours. I saw them. I only know from hearsay that there were others used there.

7th interrogatory, by same. Were there other reapers different from yours in use in 1845 in northern Indiana, or brought into that part of the State for use to your knowledge? State whether or not you have been particularly interested in improvements upon agricultural implements, and what were your means of knowledge in regard to other reapers.

Answer. I don't know of any other kind brought there at that time. There were no other kinds in use there. I am always interested in matters of that kind, my business being farmer, and being desirous of getting along the best way I can. If there had been any thing of the kind I should have known it.

8th interrogatory, by same counsel. Did the reaper for which you bargained as before said, or any of the reapers sold by Hite, as agent of Brown, or sent by Brown into northern Indiana in 1845, have a raker's seat attached to them; if not, was a raker's seat afterwards attached to them by Brown's direction, and when; if attached, describe it, and state whether it was or is at all similar to the raker's seat attached to the reapers manufactured and sold by C. H. McCormick or C. H. McCormick & Co. since 1847? If a raker's seat was ever furnished your reaper or those sold by Brown in northern Indiana, state whether the same were of any use or value, and whether or not said raker's seats were thrown aside after being tried.

Question objected to by defendants' counsel.

Answer. There was none that I know of; one was attached to ours in 1847; it was attached behind the platform, with a cast-iron wheel under it; it was not at all like the raker's seat attached to the reapers since manufactured by C. H. McCormick & Co. We used ours perhaps half a day, and threw it aside as useless, and would rather walk and rake.

9th interrogatory, by same. Did you often see A. C. Brown, above mentioned, in the years 1845, 1846, or 1847, and converse with him in reference to the improvement of his reaper, and did he ever inform you or intimate to you that he had any other or better raker's seat than the one he had attached to your reaper?

Question objected to by defendants' counsel.

Answer. I saw Mr. Brown some twice after we bargained for the reaper previous to the attaching of the seat; can't say in what year. I don't recollect of having any conversation with him about the seat.

10th interrogatory, by same. Did or did not said Brown have difficulty in getting the raker's seat so attached as to be of any service?

Answer. So far as I know any thing about it, it was useless.

11th interrogatoy, by same. Have you seen the raker's seat attached to the reapers built by C. H. McCormick and C. H. McCormick & Co., now and since the year 1847, and when did you first hear of the invention and use of said raker's seat; and did you or not attach one temporarily to your reaper as soon as you heard of it, and where?

Answer. I have seen the seats attached to their reapers, such as are used now. I don't recollect whether it was in 1847 or 1848 that I first heard of it. We attached one to our reaper similar to that two years ago in the harvest of 1849.

12th interrogatory, by same. Do you know D. G. Rose, of Laporte, Indiana, and how long have you known him, and how far do you reside from him? Had he in the year 1845 a reaper with a raker's seat similar to that now manufactured by C. H. McCormick? If Rose had had such a raker's seat would you not have known it?

Answer. I know him well; have known him 12 or 15 years, and live 16 miles from him. I don't know that he ever had a reaper.

13th interrogatory, by same. Look upon the reaper now here shown you in the yard of C. H. McCormick & Co.'s reaper factory in Chi-